

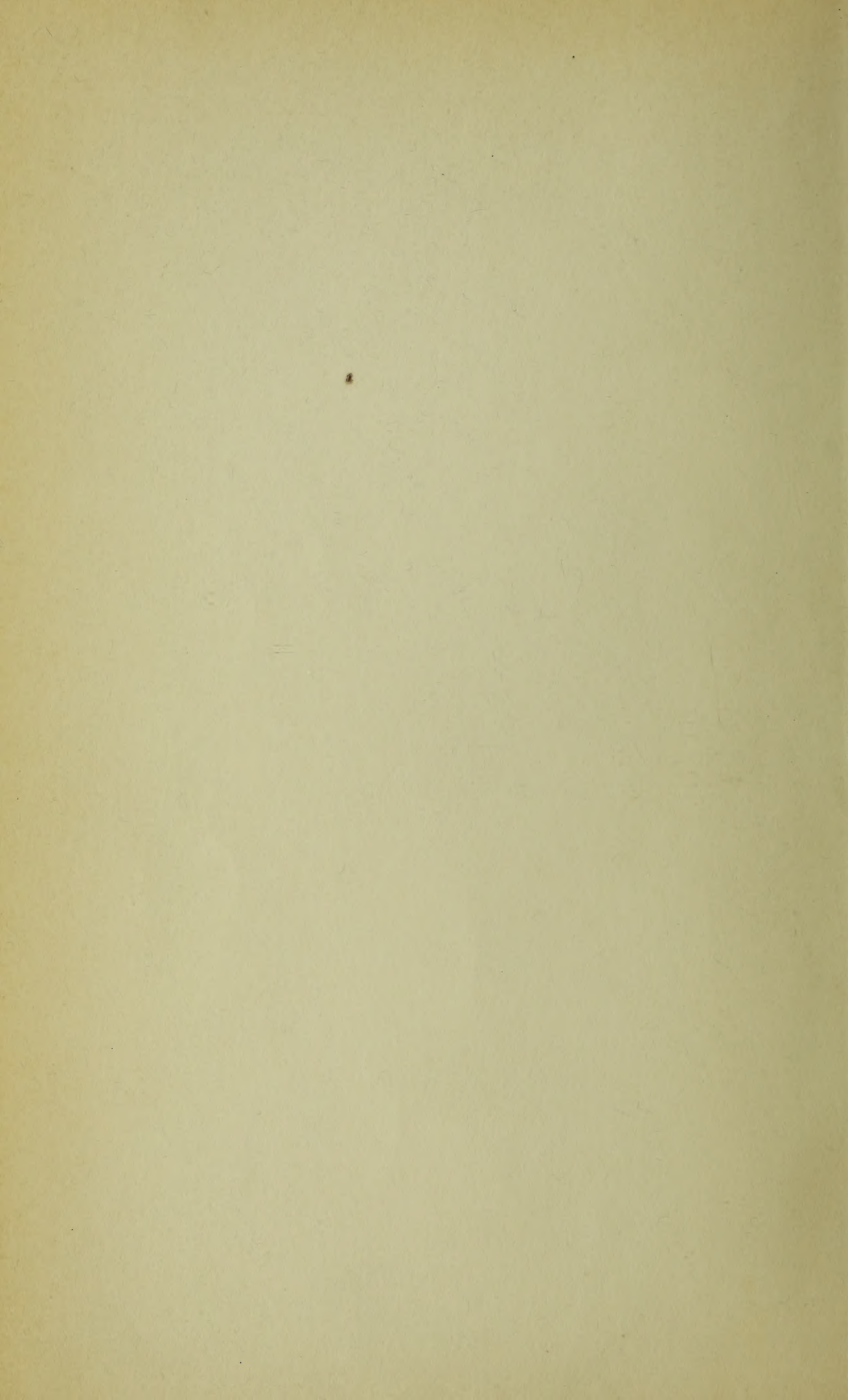
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Chief Engineer



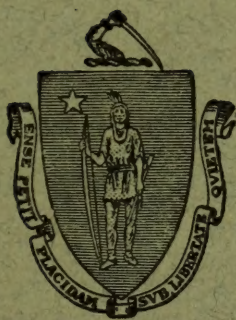
The Commonwealth of Massachusetts

ANNUAL REPORT

OF THE

Department of Public Works

FOR THE YEAR ENDING NOVEMBER 30, 1929



The Commonwealth of Massachusetts

TENTH ANNUAL REPORT

OF THE

DEPARTMENT OF PUBLIC WORKS

YEAR ENDING NOVEMBER 30, 1929

To the Honorable Senate and House of Representatives of the Commonwealth of Massachusetts

In accordance with the provisions of law, I have the honor, as Commissioner of Public Works, to submit the tenth annual report of the Department of Public Works for the year ending Nov. 30, 1929.

The organization of the Department, as defined in chapter 16, General Laws, as amended by chapter 297, Acts of 1927, was as follows:—

Commissioner of Public Works, WILLIAM F. WILLIAMS¹ and FRANK E. LYMAN.²
Associate Commissioner, RICHARD K. HALE.

Associate Commissioner, FRANK E. LYMAN² and HERMAN A. MACDONALD.³

The Department has continued its policies regarding highway improvements in selecting the types of highways and pavements best adapted to the needs of traffic and materials available. The mileage of new State highways laid out and constructed, and of State highways widened and reconstructed amounted to 120 miles. In cooperation with the cities, towns and counties, under the provisions of chapter 90, General Laws, the Department has also constructed 160 miles of highways. The total mileage (280 miles) constructed during the year exceeded that of the previous year, and likewise, the expenditures in 1929 were \$1,500,000 in excess of 1928. Under the provisions of section 26, chapter 81, General Laws, the Department has had charge of the repair and improvement of about 8,200 miles of public ways, exclusive of State highways, in about 170 towns.

Recognizing the need for wider and heavier types of surface, the Department has included in its work of the year a considerable mileage of roadways having a travelled width of thirty or forty feet.

The Newburyport Turnpike, a State highway, Route 1, one of the important projects, will be greatly improved by the completion of contracts awarded for the widening of the travelled way to thirty feet, affording three 10-foot lanes for traffic for a distance of seven miles extending northerly from Lynnfield, which was the northerly end of the widening completed last year, to the town of Ipswich. That portion of the turnpike built last year in Malden, Melrose and entering Saugus, is 40 feet in width. That portion of this route in Malden, south-erly from the end of the turnpike in Malden is also under reconstruction, 44 feet in width.

The Mohawk Trail, Route 2, has been greatly improved by the completion of the reconstruction of about 16 miles from Charlemont to North Adams, the surface of which is bituminous macadam of a coarse texture, twenty-four feet in width, in extension of the work completed last year.

One interesting new State highway is the road in Provincetown and on the Province Lands, and extension to Race Point Road which opens up a beach heretofore inaccessible, said to be one of the finest on the coast.

Other prominent projects were the Milford-Upton reconstruction, the Lanesborough cut-off, the Falmouth cut-off and the Norton-Mansfield-Attleboro construction and reconstruction.

The elimination of two extremely dangerous underpasses at Palmer, where the State highway passed under the tracks of the Boston and Albany Railroad was effected by the construction of a by-pass. Also a cut-off in Lanesborough has eliminated, for through traffic, one grade crossing and one dangerous railroad bridge. A total of six grade crossings have been eliminated during the year.

¹ Resigned Dec. 26, 1928.

² Appointed Commissioner of Public Works Dec. 26, 1928.

³ Appointed Dec. 29, 1928.

Several cut-offs have been completed, as for example, the Templeton cut-off, on Route 2, extending from the State highway in Gardner, thence through Templeton to a connection with the State highway at Phillipston. The southerly route from Worcester to Springfield via Charlton, Sturbridge and Brimfield has been greatly improved by construction of new State highway and the branch from Sturbridge through Holland on the Boston-Hartford-New York route.

Among the prominent cooperative projects were the following:—the reconstruction of a bridge and highway connecting Shawsheen Village with the town of Andover proper; and the Westfield-Holyoke work.

The construction of the Alewife Brook parkway extension has been largely completed, providing a 40-foot bituminous macadam roadway, with two truss and girder bridges to carry this road over the tracks of the Boston and Maine Railroad. Upon completion, portions of this road will become part of the boulevard system of the Metropolitan District and the balance will remain as city streets of Cambridge.

In traffic matters, the Department, under the provisions of chapter 357, Acts of 1928, has issued Rules and Regulations for traffic on State highways and through ways so designated by the Department and also issued Bulletin No. 2, a Standard Code for Traffic Control Signal Installation and Operation, applicable to all highways within the Commonwealth. Numerous additional direction and warning signs as well as route numbers have been erected on the State highways and other important routes.

The outstanding waterways projects were the dredging of Town River, Quincy, Annisquam River, Gloucester, and Scituate Harbor, Scituate. Under legislative authorization the Department moved two hangars erected by the Commonwealth to new locations at the Boston Airport.

The engineering and clerical staff of the Department and the Registry of Motor Vehicles was as follows:—

Chief Engineer, ARTHUR W. DEAN.¹

Highway Engineer (Projects), FRANKLIN C. PILLSBURY.

Highway Engineer (Construction), RAYMOND C. COBURN.

Highway Engineer (Maintenance), GEORGE H. DELANO.

Bridge Engineer, GEORGE E. HARKNESS.

District Highway Engineers:

District No. 1, GEORGE A. CURTIS, — Berkshire County and the towns of Worthington, Middlefield and Huntington in Hampshire County, and the towns of Chester, Montgomery, Russell, Blandford and Tolland in Hampden County.

District No. 2, H. D. PHILLIPS, — Franklin, Hampshire and Hampden Counties, with the following exceptions: three towns in Hampshire County included in District No. 1 and ten towns in Hampden County included in Districts Nos. 1 and 3.

District No. 3, JOHN A. JOHNSTON, — Worcester County and the towns of Brimfield, Holland, Monson, Palmer and Wales in Hampden County.

District No. 4, F. D. SABIN, — Middlesex County.

District No. 5, JAMES E. LAWRENCE, — Essex and Suffolk Counties.

District No. 6, H. O. PARKER, — Norfolk and Bristol Counties.

District No. 7, H. C. HOLDEN, — Plymouth, Barnstable, Dukes and Nantucket Counties.

District Waterways Engineer, for Boston Harbor, — JOHN N. FERGUSON.

District Waterways Engineer, for harbors and waterways outside Boston Harbor, FRANCIS L. SELLEW.

Secretary, MARY A. RILEY.

Financial Secretary, FRED FAIR.

Registry of Motor Vehicles

Registrar, GEORGE A. PARKER.

Deputy Registrar, ANTHONY A. BONZAGNI.

¹ Appointed Chief Engineer Jan. 8, 1929 (formerly Chief Highway Engineer).

Assistant to the Registrar of Motor Vehicles, ALFRED W. DEVINE.

Chief Administrative Clerk, CHARLES R. GILLEY.

Chief Inspector of Motor Vehicles, ALBERT S. OLSSON.

A detailed report of the activities of the Department for the year is presented herewith.

FRANK E. LYMAN,
Commissioner of Public Works.

DEC. 1, 1929.

SPECIAL REPORTS TO THE LEGISLATURE

The Department was authorized and directed by the Legislature to make certain investigations, and the reports thereon were made as follows:—

The construction of a bridge over the Mystic River in the city of Medford and related improvements. Report made Dec. 1, 1928, by the Department of Public Works, under chapter 35, Resolves of 1928. (Senate 4 of 1929.)

The taking over and maintenance by the Commonwealth of certain bridges on main through routes of travel. Report made Dec. 1, 1928, by the Department of Public Works, under chapter 38, Resolves of 1928. (Senate 10 of 1929.)

Protecting the cities and towns in the Hoosac and Connecticut River valleys from flood damage. Report made Dec. 1, 1928, by the Department of Public Works, under chapter 28, Resolves of 1928. (House 111 of 1929.)

A boulevard from Stoneham to the Quannapowitt Parkway in Wakefield. Report made Dec. 1, 1928, by the Department of Public Works, under chapter 42, Resolves of 1928. (House 149 of 1929.)

The rebuilding of Baker and Ocean avenues in the city of Revere. Report made Dec. 1, 1928, by the Department of Public Works, under chapter 45, Resolves of 1928. (House 190 of 1929.)

The improvement of Broadway in Malden and certain ways in Braintree, Weymouth and Hingham. Report made Dec. 1, 1928, under chapter 46, Resolves of 1928. (House 211 of 1929.)

A State highway in Revere from Broadway to the Revere Beach Parkway at Revere Street. Report made Dec. 1, 1928, under chapter 55, Resolves of 1928. (House 127 of 1929.)

Acquiring the right of way for public access to Lake Chaubunagungamaug in the town of Webster. Report made Dec. 1, 1928, by the Department of Public Works and the Attorney General, jointly, under chapter 453, Acts of 1923. (House 155 of 1929.)

Reports made by special commissions of which the Commissioner of Public Works was a member.

The lighting of State and other highways and the apportionment of the cost thereof. Report made Dec. 10, 1928, by a Special Commission under chapter 39, Resolves of 1928. (House 132 of 1929.)

Unsanitary conditions in Savin Hill Bay, and the dredging of Commercial Point Channel and of a channel to the Dorchester Yacht Club landing. Report made by a special commission under chapter 39, Resolves of 1928. (House 185 of 1929.)

The advisability of filling in South Bay and part of Fort Point Channel in Boston Harbor. Report made Dec. 24, 1928, by a Special Commission under chapter 23, Resolves of 1927. (House 1010 of 1929.)

RECOMMENDATIONS FOR LEGISLATION

The Commissioner of Public Works presented to the State Secretary on Dec. 4, 1928, as required by law, that part of the current annual report which contains recommendations or suggestions for legislative action as follows:—

1. *Certain Contracts Relative to the Construction of Highways*

The present necessity in the program for the development of the State highways places greater emphasis on the construction of new State Highways, and as pertinent to this need and as a means of expediting the seasonal construction work, it is recommended that the Department of Public Works be author-

ized to make contracts for the construction of State highways in anticipation of appropriations therefor, in the same manner as authorized for the reconstruction of State highways, as provided in section twenty-seven of chapter twenty-nine, General Laws. The suggested amendment and the other laws relating to the construction of State highways provide for the approval of such expenditures by the Governor and Council.

2. *Increasing the Penalty for Operating a Motor Vehicle after Suspension or Revocation of the Registration thereof, or after Suspension or Revocation of a License or Right to Operate Motor Vehicles*

A more effective provision of the law relating to the matter of the operation of motor vehicles after suspension or revocation of registration thereof, or after suspension or revocation of licenses to operate, is deemed to be necessary, and therefore it is recommended that penalty for such offences be appreciably increased by amendment to section twenty-three, chapter ninety, of the General Laws.

3. *Regulating the Drawing of Trailers and Other Vehicles by Motor Vehicles*

One of the most hazardous features of the operation of motor vehicles, with trailers, on the highways, is the use of more than one such trailer. Such combinations of vehicles create another element of uncertainty in the overtaking and passing by other vehicles, and furthermore it is not believed that the highways should become roadways for trains of such vehicles. It is therefore recommended that section nineteen of chapter ninety, General Laws, be amended to prohibit such operation.

4. *Regulating the Cancellation of Motor Vehicle Liability Policies for Failure to Pay any Sum on Account of Premiums*

Experience in connection with the procedure in the matter of the cancellation of motor vehicle liability policies indicates that a modification of section nine of chapter ninety, General Laws, is advisable, in order to regulate the cancellation of such policies for failure to pay any sum on account of premiums.

5. *Including within the Provisions of Motor Vehicle Laws, Excepting Those Requiring Liability Insurance and the Payment of Registration Fees, Certain Vehicles Heretofore Excluded Therefrom*

In order to clarify the law relating to the definition of motor vehicles and to registrations of certain vehicles heretofore excluded from the provisions of the motor vehicle laws, excepting those requiring liability insurance and the payment of registration fees, amendments to various sections of chapter ninety are recommended. These relate particularly to vehicles of the police departments and other municipally owned automobiles, but further provide that they need not be registered or insured, and that they shall display distinctive number plates which shall be furnished and authorized by the Registrar of Motor Vehicles.

6. *Fees for Registration of Certain Motor Vehicles and to Rebates on Account Thereof*

It is deemed advisable to abolish so-called half fees and rebates in connection with the registrations of certain motor vehicles, and an amendment to section two of chapter ninety, General Laws, is accordingly recommended.

7. *Providing for a Reasonable Fee for the Periodic Inspection of Motor Vehicles and Trailers*

The periodic inspection of motor vehicles and trailers for the determination of the condition of equipment is very important, and in order to provide for the successful carrying out of such work it is recommended that a reasonable fee should be provided for, by an amendment to section seven A, of chapter ninety, General Laws, as inserted by chapter two hundred and fifty-two of the Acts of 1929.

APPROPRIATIONS

Chapter 146, Acts of 1929, making appropriations for the maintenance of departments, boards, commissions, institutions and certain activities of the Commonwealth, etc., is, in part, as follows: —

Item	Requirements for Extinguishing the State Debt	
209.	For sinking fund requirements and for certain serial bonds maturing during the present year, the sum of one million one hundred forty-two thousand seventeen dollars and forty-nine cents, payable from the following accounts and funds in the following amounts: —from receipts from loans for the abolition of grade crossings, the sum of thirty-four thousand dollars; from the Highway Fund, the sum of three hundred sixty-three thousand seventeen dollars and fifty cents; from the balance of the receipts of the sale of the Boston dry dock, two hundred fifty thousand dollars; from the balance of the receipts of the sale of bonds for the defence of the Commonwealth, sixty-five thousand six hundred ten dollars and thirty-six cents; and the remainder from the general fund	\$1,142,017 49

Interest on the Public Debt

210.	For the payment of interest on the direct debt and temporary loans of the commonwealth, a sum not exceeding one million dollars, of which sum three hundred sixty-two thousand six hundred fifty-one dollars and twenty-five cents shall be paid from the Highway Fund	1,000,000 00
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Service of the Department of Banking and Insurance
Division of Insurance:

288.	For other personal services of the division, including expenses of the board of appeal and certain other costs of supervising motor vehicle liability insurance, a sum not exceeding one hundred sixty thousand dollars, of which sum not more than twenty-eight thousand dollars may be charged to the Highway Fund	160,000 00
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Service of the Department of Public Works

The appropriations made in the following three items are to be paid two-thirds from the Highway Fund and one-third from the Port of Boston receipts:

628.	For the salaries of the commissioner and the associate commissioners, a sum not exceeding nineteen thousand five hundred dollars	19,500 00
629.	For personal services of clerks and assistants to the commissioner, a sum not exceeding ten thousand eight hundred dollars	10,800 00
630.	For travelling expenses of the commissioners, a sum not exceeding four thousand dollars	4,000 00

Functions of the department relating to highways (the following appropriations, except as otherwise provided, are made from the Highway Fund):

631.	For the personal services of the chief engineer, engineers and office assistants, including certain clerks and	
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Item

	stenographers, a sum not exceeding seventy-eight thousand eight hundred dollars	\$78,800 00
632.	For services other than personal, including printing pamphlet of laws and the annual report, and necessary office supplies and equipment, a sum not exceeding twelve thousand dollars	12,000 00
633.	For the suppression of gypsy and brown tail moths on state highways, a sum not exceeding fifteen thousand dollars	15,000 00
634.	For the construction and repair of town and county ways, a sum not exceeding two million dollars	2,000,000 00
635.	For aiding towns in the repair and improvement of public ways, a sum not exceeding nine hundred thousand dollars	900,000 00
636.	For the maintenance and repair of state highways, including care of snow on highways, expenses of traffic signs and lights, and payment of damages caused by defects in state highways with the approval of the attorney general, and for care and repair of road-building machinery, a sum not exceeding six million five hundred thousand dollars	6,500,000 00
637.	For the maintenance and operation of the Newburyport bridge and the Brightman street bridge in Fall River and Somerset, in accordance with the provisions of existing laws, a sum not exceeding eighteen thousand dollars	18,000 00
638.	For the purpose of enabling the department of public works to secure federal aid for the construction of highways, a sum not exceeding one million five hundred thousand dollars	1,500,000 00
639.	For administering the law relative to advertising signs near highways, a sum not exceeding fifteen thousand five hundred dollars, to be paid from the general fund	15,500 00
	Registration of Motor Vehicles:	
640.	For personal services, a sum not exceeding eight hundred eighteen thousand dollars, to be paid from the Highway Fund	818,000 00
641.	For services other than personal, including traveling expenses, purchase of necessary supplies and materials, including cartage and storage of the same, and for work incidental to the registration and licensing of owners and operators of motor vehicles, a sum not exceeding five hundred twenty-two thousand dollars, to be paid from the Highway Fund	522,000 00
642.	For printing and other expenses necessary in connection with publicity for certain safety work, a sum not exceeding twenty-five hundred dollars, to be paid from the Highway Fund	2,500 00
	Functions of the department relating to waterways and public lands:	
643.	For personal services of the chief engineer and assistants, a sum not exceeding fifty-two thousand dollars	52,000 00
644.	For services other than personal, including printing pamphlet of laws and the annual report, and for necessary office and engineering supplies and equipment, a sum not exceeding three thousand dollars	3,000 00
645.	For the care and maintenance of the province lands and the lands acquired and structures erected by the	

Item

	Provincetown tercentenary commission, a sum not exceeding five thousand dollars	\$5,000 00
646.	For the maintenance of structures, and for repairing damages along the coast line or river banks of the commonwealth, and for the removal of wrecks and other obstructions from tidewaters and great ponds, a sum not exceeding forty thousand dollars	40,000 00
647.	For the improvement, development and protection of rivers and harbors, tidewaters and foreshores within the commonwealth, as authorized by section eleven of chapter ninety-one of the General Laws, and of great ponds, a sum not exceeding one hundred thousand dollars, and any unexpended balance of the appropriation remaining at the end of the current fiscal year may be expended in the succeeding fiscal year for the same purposes; provided, that all expenditures made for the protection of shores shall be upon condition that at least fifty per cent of the cost is covered by contributions from municipalities or other organizations and individuals, and that in the case of dredging channels for harbor improvements at least twenty-five per cent of the cost shall be so covered	100,000 00
648.	For re-establishing and permanently marking certain triangulation points and sections, as required by order of the land court in accordance with section thirty-three of chapter ninety-one of the General Laws, as amended, a sum not exceeding one thousand dollars	1,000 00
649.	For expenses of surveying certain town boundaries, by the department of public works, a sum not exceeding one thousand dollars	1,000 00
650.	For the supervision and operation of commonwealth pier five, including the salaries or other compensation of employees, and for the repair and replacement of equipment and other property, a sum not exceeding one hundred ten thousand dollars, to be paid from the Port of Boston receipts	110,000 00
651.	For the maintenance of pier one, at East Boston, a sum not exceeding eight thousand dollars, to be paid from the Port of Boston receipts	8,000 00
652.	For the maintenance and improvement of commonwealth property under the control of the department in connection with its functions relating to waterways and public lands, a sum not exceeding seventy thousand dollars, to be paid from the Port of Boston receipts	70,000 00
653.	For the operation and maintenance of the New Bedford state pier, a sum not exceeding five thousand dollars	5,000 00
654.	For the compensation of dumping inspectors, a sum not exceeding five thousand dollars	5,000 00
655.	For continuing the work in gauging the flow of water in the streams of the commonwealth, a sum not exceeding four thousand dollars	4,000 00
	Specials:	
656.	For dredging channels and filling flats, a sum not exceeding twenty-five thousand dollars, to be paid from the Port of Boston receipts and to be in addition to any amount heretofore appropriated for the purpose	25,000 00
657.	For expenses of locating state boundary monuments, a sum not exceeding one thousand dollars	1,000 00

Miscellaneous

The following five items are to be paid from the Highway Fund:

679.	For maintenance of boulevards and parkways, with the approval of the metropolitan district commission, a sum not exceeding two hundred thirty-seven thousand six hundred dollars, representing the state's portion or one half of the estimated cost of maintenance	\$237,600 00
680.	For resurfacing of boulevards and parkways, with the approval of the metropolitan district commission, a sum not exceeding fifty thousand dollars, representing the state's portion or one half of the estimated cost of resurfacing	50,000 00
681.	For maintenance of boulevards and parkways, with the approval of the metropolitan district commission, for the installation of a certain electric lighting system, a sum not exceeding twelve thousand five hundred dollars, representing the state's portion or one half of the estimated cost	12,500 00
682.	For the construction of a certain parkway or boulevard along the southerly side of the Charles river basin, as authorized by chapter three hundred and sixty-five of the acts of nineteen hundred and twenty-six, a sum not exceeding one hundred thousand dollars, representing the state's portion or one half of the estimated cost of construction, the same to be in addition to any amount heretofore appropriated for the purpose	100,000 00
683.	For maintenance of Wellington bridge, with the approval of the metropolitan district commission, a sum not exceeding thirty-one hundred dollars	3,100 00

Metropolitan District Commission

The following items are to be assessed upon the several districts in accordance with the methods fixed by law, and to be expended under the direction and with the approval of the metropolitan district commission:

704.	For maintenance of Wellington bridge, a sum not exceeding ninety-three hundred dollars, the same to be in addition to the amount appropriated in item six hundred and eighty-three	9,300 00
705.	For maintenance of boulevards and parkways, a sum not exceeding two hundred thirty-seven thousand six hundred dollars, the same to be in addition to the amount appropriated in item six hundred and seventy-nine	237,600 00
706.	For resurfacing of boulevards and parkways, a sum not exceeding fifty thousand dollars, the same to be in addition to the amount appropriated in item six hundred and eighty	50,000 00
707.	For the construction of a certain parkway or boulevard along the southerly side of the Charles river basin, as authorized by chapter three hundred and sixty-five of the acts of nineteen hundred and twenty-six, a sum not exceeding one hundred thousand dollars, the same to be in addition to the amount appropriated in item six hundred and eighty-two, and	

Item

	to be in addition to any amount heretofore appropriated for the purpose	\$100,000 00
708.	For maintenance of boulevards and parkways, for the installation of a certain electric lighting system, a sum not exceeding twelve thousand five hundred dollars, the same to be in addition to the amount appropriated in item six hundred and eighty-one .	12,500 00

Chapter 386, Acts of 1929, in addition to the general appropriation act making appropriations to supplement certain items contained therein, and for certain new activities and projects, is, in part, as follows: —

Service of Special Legislative Investigations

30h.	For expenses of an investigation by an unpaid special commission as to what measures should be taken to promote the abolition of grade crossings in the commonwealth, as authorized by chapter thirty of the resolves of the present year, a sum not exceeding two thousand dollars	2,000 00
30l.	For expenses of an investigation by an unpaid special commission relative to compulsory automobile liability insurance, as authorized by chapter forty of the resolves of the present year, a sum not exceeding ten thousand dollars	10,000 00
136a.	For expenses to be incurred by the department of public works in moving and relocating, upon such site as is fixed by the city of Boston, the hangars and other buildings located at the airport in East Boston and now utilized by the aviation units of the Massachusetts National Guard, as authorized by chapter twenty-four of the resolves of the present year, a sum not exceeding twenty-two thousand dollars . . .	22,000 00

Service of the Department of Public Works

Functions of the department relating to highways:

634.	For the construction and repair of town and county ways, a sum not exceeding twenty-five thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose and to be paid from the Highway Fund	25,000 00
639a.	For the construction and reconstruction of certain highways, as authorized by chapter three hundred and sixty-four of the acts of the present year, a sum not exceeding forty-five thousand nine hundred dollars, to be paid from the Highway Fund	45,900 00

Registration of Motor Vehicles:

640.	For personal services, a sum not exceeding fifteen thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose and to be paid from the Highway Fund	15,000 00
641.	For services other than personal, including travelling expenses, purchase of necessary supplies and materials, including cartage and storage of the same, and for work incidental to the registration and licensing of owners and operators of motor vehicles, a sum not exceeding ten thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose and to be paid from the Highway Fund	10,000 00

Functions of the department relating to waterways
and public lands:

652. For the maintenance and improvement of commonwealth property under the control of the department in connection with its functions relating to waterways and public lands, a sum not exceeding twenty thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose and to be paid from the port of Boston receipts . . . \$20,000 00

Specials:

- 656a. For dredging Commercial Point channel, as authorized by chapter three hundred and seventeen of the acts of the present year, a sum not exceeding twenty-eight thousand one hundred and twenty-five dollars, to be paid from the Port of Boston receipts . . . 28,125 00
- 656b. For further investigation by an unpaid special commission relative to the filling of navigable waters in a part of Fort Point channel and South bay, as authorized by chapter forty-eight of the resolves of the present year, a sum not exceeding seventy-five hundred dollars, one half of which is to be assessed upon the city of Boston . . . 7,500 00

Metropolitan District Commission (Highway Fund)

The following five items are to be paid from the Highway Fund:

681. For maintenance of boulevards and parkways, with the approval of the metropolitan district commission, for the installation of a certain electric lighting system, a sum not exceeding one thousand dollars, representing the state's portion or one half of the estimated cost, and to be in addition to any amount heretofore appropriated for the purpose . . . 1,000 00
683. For maintenance of Wellington bridge, with the approval of the metropolitan district commission, a sum not exceeding sixteen hundred dollars, the same to be in addition to any amount heretofore appropriated for the purpose . . . 1,600 00
- 683a. For certain dredging, to be done by the department of public works, on account of the Old Colony boulevard, as authorized by chapter three hundred and seventeen of the acts of the present year, a sum not exceeding fifty-nine thousand six hundred eighty-seven dollars and fifty cents . . . 59,687 50
- 683b. For the construction of certain boulevards, as authorized by chapter three hundred and thirty-four of the acts of the present year, a sum not exceeding seventy-nine thousand five hundred dollars . . . 79,500 00
- 683c. For the taking of certain land and for filling for a certain boulevard in the town of Brookline and the city of Newton, as authorized by chapter three hundred and fifty-eight of the acts of the present year, a sum not exceeding twelve thousand five hundred dollars . . . 12,500 00

DEFICIENCIES

For deficiencies in certain appropriations of previous years, in certain items, as follows:

Item

Metropolitan District Commission

The following items are to be assessed upon the several districts in accordance with the methods fixed by law, and to be expended under the direction and with the approval of the metropolitan district commission:

700a.	For repairs and further shore protection at the Lynn Beach reservation, a sum not exceeding ten thousand dollars, to be assessed upon the metropolitan parks district	\$10,000 00
704.	For maintenance of Wellington bridge, a sum not exceeding forty-eight hundred dollars, the same to be in addition to the amount appropriated in item six hundred and eighty-three and to be in addition to any amount heretofore appropriated for the purpose	4,800 00
706b.	For certain dredging, to be done by the department of public works, on account of the Old Colony boulevard, as authorized by chapter three hundred and seventeen of the acts of the present year, a sum not exceeding fifty-nine thousand six hundred eighty-seven dollars and fifty cents, to be assessed upon the metropolitan parks district and to be in addition to the amount appropriated in item six hundred and eighty-three <i>a</i>	59,687 50
706c.	For the construction of certain boulevards, as authorized by chapter three hundred and thirty-four of the acts of the present year, a sum not exceeding seventy-nine thousand five hundred dollars, to be assessed upon the metropolitan parks district and to be in addition to the amount appropriated in item six hundred and eighty-three <i>b</i>	79,500 00
706d.	For the taking of certain land for filling for a certain boulevard in the town of Brookline and the city of Newton, as authorized by chapter three hundred and fifty-eight of the acts of the present year, a sum not exceeding twelve thousand five hundred dollars, to be assessed upon the metropolitan parks district and to be in addition to the amount appropriated in item six hundred and eighty-three <i>c</i>	12,500 00
706e.	For the construction and reconstruction of certain highways by the department of public works, as authorized by chapter three hundred and sixty-four of the acts of the present year, a sum not exceeding forty-five thousand nine hundred dollars, to be assessed upon the metropolitan parks district and to be in addition to the amount appropriated in item six hundred and thirty-nine <i>a</i>	45,900 00
708.	For maintenance of boulevards and parkways, for the installation of a certain electric lighting system, a sum not exceeding one thousand dollars, the same to be in addition to the amount appropriated in item six hundred and eighty-one	1,000 00
710a.	For an investigation by an unpaid special commission of the general subject of the discharge of sewage into Boston harbor, as authorized by chapter twenty-nine of the resolves of the present year, a sum not exceeding twenty thousand dollars, the cost to be assessed in accordance with said resolve	20,000 00

OTHER MISCELLANEOUS

Service of the Department of Public Works

636. For the maintenance and repair of state highways, including care of snow on highways, expenses of traffic signs and lights, and payment of damages caused by defects in state highways with the approval of the attorney general, and for care and repair of road-building machinery, a sum not exceeding thirty-five thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose and to be paid from the Highway Fund \$35,000 00

Service of the Metropolitan District Commission (Highway Fund)

683d. For certain improvements in the Charles River basin, as authorized by chapter three hundred and seventy-one of the acts of the present year, a sum not exceeding fifty thousand dollars, to be paid from the Highway Fund 50,000 00

683e. For certain expenses on account of the construction of the northern artery as finally determined by chapter three hundred and eighty-two of the acts of the present year, a sum not exceeding two hundred sixty-two thousand five hundred dollars, to be paid from the Highway Fund 262,500 00

Metropolitan District Commission

706f. For certain improvements in the Charles River basin, as authorized by chapter three hundred and seventy-one of the acts of the present year, a sum not exceeding fifty thousand dollars, to be assessed upon the cities and towns in the metropolitan parks district in accordance with their taxable valuations 50,000 00

706g. For certain expenses on account of the construction of the northern artery as finally determined by chapter three hundred and eighty-two of the acts of the present year, a sum not exceeding two hundred and fifty thousand dollars, to be assessed upon the cities and towns in the metropolitan parks district in accordance with their taxable valuations 250,000 00

SECTION 3. The following amendments and changes are hereby made in chapter one hundred and forty-six of the acts of the present year, together with certain other changes and adjustments: —

Department of Public Works

The department of public works is hereby authorized, in making settlement of a claim of the Lane Construction Company, to charge the same to item 638.

Metropolitan District Commission

Appropriations made in chapter three hundred and forty-three of the acts of nineteen hundred and twenty-seven, for the construction of a boulevard from Black's Creek bridge to Sea street in Quincy, in item 682a and 706a, are hereby reappropriated.

FINANCIAL STATEMENTS

SUMMARY OF INCOME

YEAR ENDING Nov. 30, 1929

Highway Fund

Ch. 288, Acts of 1925

Fees (for registration of motor vehicles, licenses to operate, etc.) and fines (penalties, Sundry Courts), gross receipts	\$7,348,384 88	
Gasoline tax, gross	7,531,189 05	
Contributions for highways and assessments (G. L., Ch. 81)	1,176,321 71	
Appropriation balances of previous years reverting	41,536 15	
Reimbursement for repairs to guard rails	12,324 01	
Miscellaneous receipts	2,070 34	
Contributions and refunds	58,830 85	
		<hr/> \$16,170,656 99

Port of Boston Fund

Ch. 91, General Laws

Rent (leases and permits)	\$204,191 50	
Reimbursement for services (inspection of dumping dredged material in Boston Harbor)	1,860 92	
Use of Commonwealth Pier No. 5 (wharfage, dockage, rentals, etc.)	181,904 23	
Use of Commonwealth Pier No. 1 (rentals, etc.)	309 70	
Use of Hayward Creek property (rentals)	225 00	
Revenue from permits for dumping dredged material at receiving basins	4,096 38	
License charges (for tidewater displacement and occupying Commonwealth tide lands) Boston Harbor	37,791 30	
Telephone pay station receipts	98 97	
Sales of land, South Boston	5,206 19	
Sale of Boston Harbor maps	34 50	
Sundries	41 59	
		<hr/> \$435,760 28

Department Income

(Ordinary Revenue)

Reimbursement for services (heating D Street Building)	\$832 00	
Sales (specifications and plans for contracts)	891 00	
Interest on bank accounts	2,122 17	
Reimbursement for services (inspection of dumping dredged material outside of Boston Harbor, ch. 196, Acts of 1925)	1,094 27	
License charges (for tidewater displacement and occupying Commonwealth tide lands) outside of Boston Harbor	8,992 68	
Certified copying charges	153 00	
Sale of Atlas sheets and miscellaneous plans	817 20	
Use of Province Lands (§ 25, C. 91, G. L.)	369 40	
Permits for advertising signs	17,495 13	
Use of New Bedford State Pier	8,272 75	
		<hr/> \$41,039 60

Improvement of Rivers and Harbors Trust

Sections 11, 29, ch. 91, Gen. Laws

Contributions from towns, individuals or others	\$95,000 15	
		<hr/> \$95,000 15

Highway Trust
(Section 30, ch. 81, Gen. Laws)

Federal Aid (reimbursement from U. S. Government)	\$860,561 39	\$860,561 39
Total		\$17,603,018 41

SUMMARY OF EXPENDITURES RELATING TO HIGHWAYS

The expenditures by the Department for highways under the General Laws and other acts and chapters 146 and 386, Acts of 1929, making appropriations therefor, during the fiscal year ending Nov. 30, 1929, were as follows: —

For construction of State highways, under chapter 81, General Laws	\$2,718,497 63
For maintenance and repair of State Highways, under section 13, chapter 81, General Laws	6,851,202 73
For construction and repair of town and county ways, under section 34, chapter 90, General Laws, as amended	2,049,085 91
For highways in the five Western Counties under chapter 221, General Acts of 1915 and chapter 572, Acts of 1920	1,626 29
For aiding towns in the repair and improvement of public ways, under section 26, chapter 81, General Laws, as amended	918,923 17
For the construction of a southern traffic route, under chapters 330 and 344, Acts of 1925, and section 4, chapter 369 and chapter 398, Acts of 1926	97,932 69
For administering the law relative to advertising signs near highways	14,503 20
For the construction of the Cambridge Artery, under chapter 366, Acts of 1928	416,175 54
For the construction of a public highway along the shores of Dorchester Bay, under chapter 259, Acts of 1928	43,360 49
For the construction and improvement of certain ways in the city of Malden, and the towns of Braintree, Weymouth and Hingham, under chapter 364, Acts of 1929	166,111 56
For the refund of Southern Artery Betterment Assessments	80,417 34
For the maintenance and operation of the bridge over Merrimack River between Newburyport and Salisbury, under chapter 716, Acts of 1912	5,144 53
For the maintenance and operation of the bridge over Taunton Great River at Brightman Street in Fall River, under chapter 717, Acts of 1912	12,285 01
For the suppression of gypsy and brown-tail moths on State highways	14,823 47
For general expenses	86,947 62
Total	\$13,477,037 18

EXPENDITURES RELATING TO THE REGISTRY OF MOTOR VEHICLES

The cost of running the Registry of Motor Vehicles	\$1,342,815 09
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SUMMARY OF EXPENDITURES RELATING TO WATERWAYS

General expenses	\$50,150 16
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Boston Harbor:

Maintenance and operation, Commonwealth Pier 1, East Boston	8,000 00
Maintenance and operation, Commonwealth Pier 5, South Boston	110,123 82
Maintenance of property	136,564 65
Dredging and filling	86,014 45
Streets, piers and railroads	47,565 99

Repairs to sea wall, Castle Island	\$3,024 00
Dredging Savin Hill Bay	147,500 00
Boston Harbor investigation	20,000 00
Moving hangars at airport, East Boston	22,000 00

Outside of Boston Harbor:

Improvement of rivers and harbors	215,973 01
Fort Point Channel investigation	1,459 77
Repairing damages to shore	49,700 74
Maintenance, New Bedford State Pier	5,000 00
Sea wall, Winthrop	24 77
Expenses of province lands	5,000 00
Expenses of Plymouth property	5,426 35
Flood damage repairs, Connecticut and Hoosac rivers	22,642 18
Angle Tree monument	123 12
Access to great ponds	4 20
Topographical survey	1,000 00
Stream gauging	4,000 00
Surveying town boundaries	1,000 00
Locating state boundaries	1,000 00
Compensation for services of dumping inspectors	5,015 81

Total	\$646,168 31
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RELATING TO HIGHWAYS

COOPERATIVE WORK — SUPERVISION OF EXPENDITURES

The Department has supervised the expenditures during the year by cities, towns and counties, under chapter 81, General Laws, as amended by section 1, chapter 120, Acts of 1921, and as amended in section 26 by chapter 281, Acts of 1922, and under section 34, chapter 90, General Laws, as amended by section 1, chapter 112, Acts of 1921, and as amended by chapter 288, Acts of 1925, of approximately \$3,415,198.47 for cooperative work, in repairing, maintaining and improving certain public ways, and for other road work for which the towns and cities made contributions. All such work was carried out in conformity with contracts, specifications and plans approved by the Department.

PETITIONS, MEETINGS AND HEARINGS

In addition to the regular weekly meetings of the Department throughout the year, numerous hearings and conferences have been held, including the annual hearings in the several counties in the Commonwealth for the open discussion of questions relating to the public ways, as required by section 1, chapter 81, General Laws; hearings on petitions for the amendment or revision of permits for the operation of bus lines in 24 cases; appeals from the action taken by the Registrar of Motor Vehicles in the suspension or revocation of certain licenses to operate motor vehicles in 61 cases; on the matter of outdoor advertising in 7 cases; on the matter of special regulations for motor vehicles in North Andover, Somerville, Tyngsborough, Winchester and West Springfield; on the appeal from the action taken by the Registrar of Motor Vehicles prohibiting flying for commercial purposes from an airport in Grafton; on the disposition of minor offences under the motor vehicle laws; and on traffic regulations.

Petitions were received and contracts signed during the year, as follows: —

	Petitions	Contracts
State highways	14	47
Work under section 34, chapter 90, General Laws, as amended	82	305
Work under section 26, chapter 81, General Laws, as amended	168	168
Work under special acts	—	4
Totals	264	524

GENERAL STATEMENT AS TO SURVEYS, PLANS, ESTIMATES AND OTHER WORK
DURING THE YEAR

State Highways.—During the year ending Nov. 30, 1929, the Department completed work on about 56.434 miles of State highway, portions of which were laid out in 1928. Construction was commenced, but not completed, on about 0.8 miles of road in 2 towns. Layouts were made of 29.673 miles of State highway in 17 cities and towns. Under chapter 81, General Laws, as amended by chapter 427, Acts of 1921, 11.276 miles of State highway were discontinued or abandoned. The total length of State highways laid out to the end of the year was 1,627.505 miles.

Surveys, Plans and Estimates.—During the year preliminary surveys, plans and estimates were made as follows:

For State Highway Construction.—Preliminary surveys in 20 towns, 37.066 miles; plans in 19 towns, 33.622 miles; preliminary estimates in 13 towns, 34.796 miles; lines and grades in 18 towns, 33.099 miles; and final surveys and estimates in 14 towns, 30.829 miles.

For State Highway Reconstruction and Resurfacing.—Preliminary surveys in 58 towns, 104.65 miles; plans in 60 towns, 105.605 miles; preliminary estimates in 50 towns, 88.671 miles; lines and grades in 38 towns, 65.659 miles; final surveys and estimates in 33 towns, 53.951 miles.

Under section 34 of chapter 90 of the General Laws as amended:—Preliminary surveys in 167 towns, 188.499 miles; plans in 144 towns, 171.536 miles; preliminary estimates in 100 towns, 104.855 miles; lines and grades in 187 towns, 163.176 miles; final surveys and estimates in 61 towns, 53.247 miles.

Under chapter 364, Resolves of 1929. Preliminary surveys and plans in 1 city, 1.549 miles; preliminary estimates in 1 city and 3 towns, 7.518 miles; lines and grades in 1 city and 3 towns, 7.518 miles.

Under chapter 259, Acts of 1928. Preliminary surveys, plans and estimates in 1 city, 0.379 miles; lines and grades in 1 city, 0.379 miles.

Under chapter 366, Acts of 1928. Preliminary plans and estimates in 1 city, 1.736 miles; lines and grades in 1 city, 1.736 miles.

For Roads to be Constructed by Towns.—Preliminary surveys in 6 towns, 4.123 miles; preliminary estimates in 4 towns, 2.625 miles; plans in 5 towns, 3.971 miles. Lines and grades in 7 towns, 3.246 miles; final survey in 1 town, 0.28 miles.

State Highway Reconnaissance.—Surveys in 16 towns, 30 miles.

Chapter 90 Reconnaissance.—Surveys in 6 towns, 8 miles.

Plans to accompany decrees for street railway locations on State highways have been made in 5 towns.

Roads Constructed in 1928.—Construction has been completed on 56.434 miles of State highway, 158.925 miles of highways under the provisions of section 34 of chapter 90 of the General Laws, as amended, and 4.139 miles of highways under the provisions of special acts, making a total of 219.498 miles completed during the year.

Of the above roads completed this year 30.783 miles were of gravel; 14.185 miles were of bituminous concrete; 121.603 miles were of bituminous macadam; 10.112 miles were of reinforced concrete; 41.480 miles were of gravel with a bituminous treatment, 0.682 miles were of earth, 0.653 miles were of waterbound macadam with a bituminous treatment.

Resurfacing, Reconstruction and Widening.—During the year 2.078 miles of State highway were widened but not resurfaced and 99.984 miles were resurfaced or reconstructed and widened. These figures are for completed work. There is uncompleted work in various stages on a number of miles of road where the work will be completed next year.

Of the roads resurfaced or reconstructed this year, 81.572 miles were of bituminous macadam, 9.232 miles were of bituminous concrete, 7.545 miles were of reinforced concrete, and 1.635 miles were of dual type (reinforced concrete and bituminous macadam).

Permits.—There were 2,152 permits issued during the year for opening or occupying State highways for various purposes.

Engineering Advice to Municipal Authorities.—The Department furnished without charge, engineering advice to 20 cities and towns in accordance with the provisions of section 1, chapter 81, General Laws.

Approval of Specifications.—The Department approved during the year, under the provisions of section 7, chapter 44, General Laws, as amended, specifications for the construction of roads in 33 towns and cities.

Approval of Bridge Plans.—The Department approved during the year, under the provisions of chapter 313, Acts of 1923, plans for the construction of bridges in 10 towns and cities.

STATE HIGHWAYS

General Laws, chapter 81, section 4, provides that —

“If county commissioners, aldermen or selectmen adjudge that public necessity and convenience require that the Commonwealth lay out and take charge of a new or existing way as a highway in whole or in part, in their county, city or town, they may apply, by a written petition, to the division, requesting that said way be laid out and taken charge of by the commonwealth.”

Petitions under the aforesaid section have been received during the year, as follows: —

SELECTMEN OF MATTAPOISETT.—Road extending from a point on County Street about one-half mile westerly of the New York, New Haven & Hartford Railroad crossing easterly for about one and nine-tenths miles to a point on the Marion Road. Received Dec. 18, 1929.

MAYOR AND CITY COUNCIL OF GARDNER.—Road locally known as West Broadway and as Templeton Street, extending from the junction of West Broadway and Conant Street to the dividing line between the city of Gardner and the town of Templeton. Received Feb. 21, 1929.

SELECTMEN OF BOURNE.—Road on the south side of the Cape Cod Canal, locally known as the County Road, extending from Eldredge's Corner through Sagamore to the dividing line between the towns of Bourne and Sandwich. Received March 23, 1929.

SELECTMEN OF ERVING.—Road locally known as the Northfield Farms Road, extending from the dividing line between the towns of Northfield and Erving to Forest Street. Received March 20, 1929.

SELECTMEN OF LANESBOROUGH.—Road extending from a point about one-half mile north of the Pittsfield line, over a new location easterly of the tracks of the Boston & Albany Railroad, to a point near the Cheshire line. Received March 20, 1929.

SELECTMEN OF CHARLTON.—Road extending from the dividing line between the towns of Oxford and Charlton southwesterly for about one mile. Received March 27, 1929.

SELECTMEN OF HOLLAND.—Road located in the extreme southeasterly corner of the town, extending from the dividing line between the towns of Sturbridge and Holland to the Connecticut line. Received March 27, 1929.

SELECTMEN OF OXFORD.—Road extending from the dividing line between the towns of Charlton and Oxford northeasterly for about six-tenths of a mile. Received March 27, 1929.

SELECTMEN OF STURBRIDGE.—Road extending from the section of State highway built in 1928, known as the Old Turnpike, to the dividing line between the towns of Sturbridge and Holland. Received March 27, 1929.

SELECTMEN OF PROVINCETOWN.—Road extending from a point at or near the southwesterly end of Commercial Street, over a new location through the Province Lands, to a point on the existing State highway leading to the Race Point Life Saving Station. Received April 5, 1929.

SELECTMEN OF NORTON.—Road extending from a point on Main Street near South Worcester Street westerly over a new location, to the dividing line between the town of Norton and the city of Attleboro. Received May 20, 1929.

SELECTMEN OF MANCHESTER.—Road locally known as Summer Street, extending from the dividing line between the town of Manchester and the city of

Gloucester to the junction of Summer, Sea and Washington streets, and road locally known as Bridge Street, extending from the junction of Bridge, Central, Pine and Bennett streets to the dividing line between the town of Manchester and the city of Beverly. Received June 6, 1929.

SELECTMEN OF BOURNE. — Road locally known as the County Road, on the south side of Cape Cod Canal, extending from Bourne Village to the dividing line between the towns of Bourne and Sandwich. Received October 4, 1929.

SELECTMEN OF CHESTER. — Road extending from a point on the Huntington Road west of the Boston and Albany Railroad underpass near the property of Carmina Dallesandro to a point on said road near the property of Charles Cooper. Received Nov. 26, 1929.

CONSTRUCTION AND RECONSTRUCTION OF STATE HIGHWAYS

(Chapter 81, General Laws, as amended)

The following contracts were entered into during the year for the construction and reconstruction of State highways in various municipalities: —

Plymouth

Jan. 8, 1929, contract made with Coleman Brothers, Inc., of Boston, for reconstructing about 34,552 feet of State highway on Warren Avenue, the surface consisting of bituminous macadam for about 29,850 feet, and of bituminous concrete for about 4,702 feet. The proposal amounted to \$227,113.70. Work completed Oct. 5, 1929. Expenditure during 1929, \$206,832.29.

Milford

Jan. 8, 1929, contract made with G. Bonazzoli & Sons, of Hudson, for reconstructing about 9,452 feet of State highway on East Main Street, the surface consisting of bituminous macadam. The proposal amounted to \$63,821.95. Work completed Aug. 24, 1929. Expenditure during 1929, \$69,058.64.

Lynnfield-Peabody-Danvers

Jan. 8, 1929, contract made with Warren Brothers Roads Company, of Cambridge, for resurfacing and widening about 2,264 feet of State highway on the Newburyport Turnpike in Lynnfield, about 14,356 feet of State highway on the same road in Peabody, and about 10,300 feet of State highway on the same road in Danvers, the surface consisting of bituminous concrete on 17,658 feet, of bituminous macadam on 1,396 feet, and of reinforced cement concrete on 7,866 feet. The proposal amounted to \$188,520.27. Work completed Aug. 20, 1929. Expenditure during 1929, \$204,905.90.

Florida-Savoy-Charlemont

Jan. 22, 1929, contract made with D'Onfro Brothers, Inc., of Leominster, for reconstructing about 25,182 feet of State highway on the Mohawk Trail in Florida, about 9,492 feet of State highway on the same road in Savoy, and about 15,100 feet of State highway on the same road in Charlemont, the surface consisting of bituminous macadam. The proposal amounted to \$451,721.75. Work about four-fifths completed. Expenditure during 1929, \$362,964.30.

Millbury-Grafton

Jan. 22, 1929, contract made with Hagan-Thibodeau Construction Co., Inc., of Eden Park, R. I., for reconstructing about 4,080 feet of State highway on the Worcester Road and Farnumsville Road in Millbury and about 19,368 feet of State highway on the same road in Grafton, the surface consisting of bituminous macadam. The proposal amounted to \$189,616.80. Work completed Sept. 28, 1929. Expenditure during 1929, \$202,138.11.

Marion-Wareham

Mar. 19, 1929, contract made with Charles I. Hosmer, of Greenfield, for reconstructing two bridges and the approaches thereto on about 3,600 feet of State highway, the surface over the bridges consisting of bituminous concrete, the surface on the balance of the road consisting of bituminous macadam. The

proposal amounted to \$176,950.40. Work about three-fourths completed. Expenditure during 1929, \$135,618.76.

Barnstable

Apr. 2, 1929, contract made with Ashley & Loring, of East Bridgewater, for reconstructing about 4,957 feet of State highway on the North County Road, the surface consisting of bituminous concrete. The proposal amounted to \$30,995.60. Work completed Aug. 27, 1929. Expenditure during 1929, \$34,219.27.

Sunderland

Apr. 2, 1929, contract made with the Kelleher Corporation, of Montague, for reconstructing about 1,310 feet of State highway on the Amherst Road, the surface consisting of bituminous macadam. The proposal amounted to \$8,825.50. Work completed May 14, 1929. Expenditure during 1929, \$9,285.73.

Erving-Northfield

Apr. 2, 1929, contract made with the Kelleher Corporation, of Montague, for constructing about 8,230 feet of State highway on the Northfield Farms Road in Erving, and about 8,309 feet of State highway on the same road in Northfield, the surface consisting of bituminous macadam. The proposal amounted to \$113,405.30. Work completed Aug. 3, 1929. Expenditure during 1929, \$126,757.97.

Falmouth

Apr. 2, 1929, contract made with Michael F. Roach & Sons, Inc., of East Bridgewater, for constructing about 9,300 feet of State highway on a new location, the surface consisting of bituminous concrete. The proposal amounted to \$56,897.40. Work completed Aug. 29, 1929. Expenditure during 1929, \$62,445.19.

Lanesborough-New Ashford

Apr. 2, 1929, contract made with The Lane Construction Corporation, of Meriden, Connecticut, for constructing about 6,811 feet of State highway on the Pittsfield Road in New Ashford, and about 17,538 feet of State highway on the same road in Lanesborough, the surface consisting of reinforced cement concrete. The proposal amounted to \$240,813.50. Work completed Nov. 27, 1929. Expenditure during 1929, \$219,070.11.

Mattapoisett

Apr. 2, 1929, contract made with Watkins Brothers, of New Bedford, for constructing about 9,940 feet of State highway on Fairhaven Road, County Road, and new location, the surface consisting of bituminous macadam. The proposal amounted to \$78,822.70. Work practically completed. Expenditure during 1929, \$65,613.60.

Holland-Sturbridge

Apr. 9, 1929, contract made with the Waterbury Road Construction Company, Inc., of Mansfield Depot, Connecticut, for constructing about 498 feet of State highway on the Sturbridge Road in Holland, and about 34,738 feet of State highway on the same road in Sturbridge, the surface consisting of bituminous macadam. The proposal amounted to \$344,974.00. Work practically completed. Expenditure during 1929, \$332,308.69.

Kingston

Apr. 9, 1929, contract made with Amos D. Bridge's Sons, Inc., of Hazardville, Connecticut, for reconstructing about 12,260 feet of State highway on Main and Summer streets, the surface consisting of bituminous macadam. The proposal amounted to \$81,267.50. Work completed July 30, 1929. Expenditure during 1929, \$84,370.65.

Chelsea

Apr. 16, 1929, contract made with F. J. McCarthy Contracting Company, of Boston, for reconstructing about 5,064 feet of State highway on Eastern Avenue, the surface consisting of reinforced cement concrete with bituminous macadam

surfacing on each side of the concrete for about 3,535 feet. The proposal amounted to \$71,475.40. Work completed Aug. 10, 1929. Expenditure during 1929, \$76,722.69.

Milford-Hopedale-Upton

Apr. 16, 1929, contract made with R. H. Newell Company, of Uxbridge, for reconstructing about 9,316 feet of State highway on the Upton Road in Milford, about 1,121 feet of State highway on the same road in Hopedale, and about 12,840 feet of State highway on the same road in Upton, the surface consisting of bituminous macadam. The proposal amounted to \$237,663.25. Work practically completed. Expenditure during 1929, \$204,068.28.

Charlton-Oxford

Apr. 16, 1929, contract made with Carlo Bianchi & Company, Inc., of Framingham, for constructing about 5,342 feet of State highway on the Oxford Road in Charlton, and about 3,100 feet of State highway on the same road in Oxford, the surface consisting of bituminous macadam. The proposal amounted to \$78,498.90. Work completed Sept. 10, 1929. Expenditure during 1929, \$82,083.75.

Lanesborough

Apr. 16, 1929, contract made with The Lane Construction Corporation, of Meriden, Connecticut, for constructing about 9,200 feet of State highway on the North Adams-Pittsfield Road and on new location in Lanesborough, the surface consisting of reinforced cement concrete. The proposal amounted to \$104,473.75. Work completed Nov. 27, 1929. Expenditure during 1929, \$88,865.65.

Provincetown

Apr. 23, 1929, contract made with Michael F. Roach & Sons, Inc., of East Bridgewater, for constructing 8,900 feet of State highway on Commercial Street and on new location in Provincetown, the surface consisting of bituminous concrete. The proposal amounted to \$80,182.00. Work completed Oct. 25, 1929. Expenditure during 1929, \$70,334.64.

Gloucester

Apr. 23, 1929, contract made with Welch & Moynihan Co., of Salem, for reconstructing about 9,529 feet of State highway on Western Avenue in Gloucester, the surface consisting of bituminous macadam. The proposal amounted to \$101,341.60. Work completed Oct. 28, 1929. Expenditure during 1929, \$92,546.81.

Gardner

Apr. 30, 1929, contract made with H. and J. P. Green Company, Inc., of Worcester, for constructing about 8,600 feet of State highway on West Broadway in Gardner, the surface consisting of bituminous macadam. The proposal amounted to \$82,692.20. Work completed Oct. 21, 1929. Expenditure during 1929, \$66,920.16.

Wrentham

Apr. 30, 1929, contract made with T. J. Quinn & Son, of Ashton, R. I., for constructing about 13,751 feet of State highway on West Street in Wrentham, the surface consisting of bituminous macadam. The proposal amounted to \$90,272.00. Work completed Oct. 1, 1929. Expenditure during 1929, \$85,737.23.

Framingham-Southborough

Apr. 30, 1929, contract made with the Middlesex Construction Company, of Framingham, for reconstructing about 12,824 feet of State highway on Pleasant Street in Framingham and about 6,047 feet of State highway on the same road in Southborough, the surface consisting of bituminous macadam. The proposal amounted to \$121,409.50. Work completed Oct. 2, 1929. Expenditure during 1929, \$130,445.02.

Erving

May 7, 1929, contract made with Ralph E. Bull, of Fitchburg, for reconstructing about 24,178 feet of State highway on the Mohawk Trail, the surface consist-

ing of bituminous macadam. The proposal amounted to \$212,141.50. Work about three-fourths completed. Expenditure during 1929, \$163,785.70.

Colrain-Shelburne

May 14, 1929, contract made with Perini & Ampollini, of Plainville, for reconstructing about 11,377 feet of State highway on Main Street in Shelburne, and about 10,050 feet of State highway on the same road in Colrain, the surface consisting of bituminous macadam. The proposal amounted to \$126,619.10. Work completed Oct. 7, 1929. Expenditure during 1929, \$110,809.84.

Rehoboth-Seekonk

May 21, 1929, contract made with Joseph McCormick, of Seekonk, for reconstructing about 9,904 feet of State highway on the Providence Turnpike in Rehoboth, and about 14,554 feet of State highway on the same road in Seekonk, the surface consisting of reinforced cement concrete. The proposal amounted to \$232,992.46. Work completed Nov. 5, 1929. Expenditure during 1929, \$219,761.30.

Attleboro-Norton-Mansfield

June 4, 1929, contract made with Arute Brothers, Inc., of New Britain, Connecticut, for constructing and reconstructing about 3,939 feet of State highway on Pleasant Street, Attleboro, about 18,547 feet of State highway on Main Street, Norton, about 7,400 feet of State highway on South Main Street, Mansfield, and about 9,865 feet of State highway on Mansfield Avenue, Norton, the surface consisting of bituminous macadam. The proposal amounted to \$275,090.58. Work completed Oct. 22, 1929. Expenditure during 1929, \$243,693.87.

Amesbury

June 18, 1929, contract made with John J. Watkins, of Amesbury, for surfacing about 850 feet of State highway on Macy Street, the surface consisting of bituminous macadam. The proposal amounted to \$3,385.00. Work completed July 23, 1929. Expenditure during 1929, \$4,361.60.

Charlton-Sturbridge

June 18, 1929, contract made with The Lane Construction Corporation, of Meriden, Connecticut, for surfacing about 13,823 feet of State highway on the Brimfield Road in Sturbridge, and about 15,870 feet of State highway on the same road in Charlton, the surface consisting of bituminous macadam. The proposal amounted to \$101,488.00. Work completed Nov. 2, 1929. Expenditure during 1929, \$83,350.69.

Gloucester

June 18, 1929, contract made with Welch & Moynihan Co., of Salem, for constructing about 3,970 feet of State highway on Western Avenue in Gloucester, the surface consisting of bituminous macadam. The proposal amounted to \$32,890.00. Work completed Nov. 15, 1929. Expenditure during 1929, \$34,228.20.

Greenfield

June 25, 1929, contract made with Kelleher Corporation, of Montague, for reconstructing about 8,600 feet of State highway on the Bernardston Road in Greenfield, the surface consisting of bituminous macadam. The proposal amounted to \$53,072.75. Work completed Oct. 2, 1929. Expenditure during 1929, \$58,408.63.

Yarmouth

July 9, 1929, contract made with Washburn & Sheridan Construction Company, of Taunton, for reconstructing about 700 feet of State highway on South Main Street in Yarmouth, the surface consisting of bituminous concrete. The proposal amounted to \$3,879.00. Work completed Aug. 23, 1929. Expenditure during 1929, \$4,281.41.

North Andover

July 23, 1929, contract made with Patrick J. Holland, of Lawrence, for reconstructing about 11,234 feet of State highway on the Salem Turnpike in North

Andover, the surface consisting of reinforced cement concrete. The proposal amounted to \$99,509.00. Work practically completed. Expenditure during 1929, \$101,760.68.

Dennis

Aug. 13, 1929, contract made with Amos D. Bridge's Sons, Inc., of Hazardville, Connecticut, for reconstructing about 17,120 feet of State highway on the South County Road in Dennis, the surface consisting of bituminous concrete. The proposal amounted to \$76,136.00. Work about two-thirds completed. Expenditure during 1929, \$54,581.03.

Wilbraham

Aug. 27, 1929, contract made with the Dracut Construction Company, of Dracut, for reconstructing about 8,633 feet of State highway on the Springfield-Worcester Road in Wilbraham, the surface consisting of bituminous macadam between two sections of reinforced cement concrete. The proposal amounted to \$104,179.50. Work about four-fifths completed. Expenditure during 1929, \$80,631.42.

Fall River-Somerset

Sept. 3, 1929, contract made with the Sherry Construction Co., Inc., of Fall River, for strengthening floor system and resurfacing roadway on Brightman Street Bridge over the Taunton River between the city of Fall River and the town of Somerset, the surface consisting of bituminous concrete. The proposal amounted to \$53,981.20. Work about nine-tenths completed. Expenditure during 1929, \$42,817.38.

Millbury

Sept. 17, 1929, contract made with Charles E. Horne, of Millbury, for widening about 530 feet of State highway on Main Street, the surface consisting of reinforced cement concrete. The proposal amounted to \$7,274.50. Work completed Oct. 25, 1929. Expenditure during 1929, \$5,515.10.

Leominster

Sept. 10, 1929, contract made with the Fitchburg Concrete Construction Co., of Fitchburg, for resurfacing and widening about 1,926 feet of State highway, the surface consisting of bituminous macadam. The proposal amounted to \$9,100.00. Work practically completed. Expenditure during 1929, \$7,047.65.

Danvers-Topsfield-Ipswich

Sept. 17, 1929, contract made with the Lawton Construction Co., of Providence, R. I., for resurfacing and widening about 7,841 feet of State highway on the Newburyport Turnpike in Danvers, about 24,798 feet of State highway on the same road in Topsfield, and about 6,850 feet of State highway on the same road in Ipswich, the surface consisting of bituminous macadam. The proposal amounted to \$312,028.90. Work about three-tenths completed. Expenditure during 1929, \$99,355.77.

Chester

Sept. 17, 1929, contract made with The Lane Construction Corporation, of Meriden, Conn., for constructing and reconstructing about 22,322 feet of State highway on the Becket Road, the contract including four bridges, the surface of the roadway and over three bridges consisting of bituminous macadam, the surface over one bridge consisting of bituminous concrete. The proposal amounted to \$310,036.25. Work about one-sixth completed. Expenditure during 1929, \$49,103.62.

Newbury

Oct. 1, 1929, contract made with Merritt-Chapman & Scott Corporation, of New York, for constructing a bridge and approaches on about 1,600 feet of State highway on High Street in Newbury, the surface over the bridge consisting of bituminous concrete, and the surface of the approaches consisting of bituminous macadam. The proposal amounted to \$262,954.40. Work just commenced. Expenditure during 1929, \$2,793.78.

Sterling

Oct. 8, 1929, contract made with The Fitchburg Concrete Construction Company, of Fitchburg, for reconstructing about 1,805 feet of State highway on the Worcester Road in Sterling, the surface consisting of bituminous macadam. The proposal amounted to \$9,952.00. Work practically completed. Expenditure during 1929, \$8,540.15.

Newton

Oct. 8, 1929, contract made with Raimo & Panakio, of Lynn, for reconstructing about 5,450 feet of State highway on Needham Street and Winchester Street in Newton, the surface consisting of bituminous macadam. The proposal amounted to \$33,798.20. Work just commenced. Expenditure during 1929, \$4,762.12.

Dedham

Oct. 29, 1929, contract made with Perini & Ampollini, of Athol, for resurfacing and widening about 6,674 feet of State highway on Bridge Street and Ames Street in Dedham, the surface consisting of bituminous macadam. The proposal amounted to \$58,313.50. Work just commenced. Expenditure during 1929, \$5,933.00.

Provincetown

Nov. 20, 1929, contract made with Michael F. Roach & Sons, Inc., of East Bridgewater, for constructing about 10,761 feet of State highway on Province Lands Road in Provincetown, the surface consisting of bituminous concrete. The proposal amounted to \$87,724.40. Work just commenced. Expenditure during 1929, \$701.25.

Lynn

Nov. 26, 1929, contract made with D. Cerulli & Son, of Boston, for resurfacing and widening about 10,600 feet of State highway on Lynnfield Street in Lynn, the surface consisting of bituminous macadam. The proposal amounted to \$49,919.00. Work just commenced. Expenditure during 1929, \$298.52.

Hadley

Nov. 26, 1929, contract made with Warner Bros. & Goodwin, Inc., of Sunderland, for reconstructing about 14,057 feet of State highway on the Amherst Road in Hadley, the surface consisting of bituminous macadam. The proposal amounted to \$60,608.40. Work not commenced.

EXPENDITURES FOR THE CONSTRUCTION OF STATE HIGHWAYS

The expenditures for the construction of State highways in various counties during the year were: —

Barnstable, \$204,195.09	Hampden, \$221,816.39
Berkshire, \$655,533.86	Hampshire, \$82,238.60
Bristol, \$173,405.18	Norfolk, \$141,496.76
Dukes, \$1,577.02	Plymouth, \$92,006.32
Essex, \$85,957.67	Worcester, \$866,775.09
Franklin, \$193,495.65	Total, \$2,718,497.63

Details of the foregoing expenditures follow: —

Barnstable County. — Falmouth, \$122,873.51; Provincetown, \$81,321.58.

Berkshire County. — Becket, \$57,698.62; Florida, \$35,360.11; Great Barrington, \$1,865.79; Lanesborough, \$284,510.88; New Ashford, \$68,100.85; Otis, \$2,044.45; Richmond, \$66,000.98; Sandisfield, \$97,398.91; West Stockbridge, \$42,553.27.

Bristol County. — Mansfield, \$52,595.06; Norton, \$118,373.97; Swansea, \$561.36; Westport, \$1,874.79.

Dukes County. — Gay Head, \$1,577.02.

Essex County. — Amesbury, \$34,581.19; Danvers, \$87.01; Gloucester, \$38,836.12; Groveland, \$4,066.67; Newbury, \$8,299.67; Topsfield, \$87.01.

Franklin County. — Bernardston, \$1,731.05; Colrain, \$14,745.24; Deerfield, \$20,337.49; Erving, \$69,891.75; Gill, \$1,845.51; Northfield, \$84,944.61.

Hampden County.—Brimfield, \$128,658.61; Chester, \$16,549.35; Holland, \$3,929.57; Palmer, \$56,786.60; Tolland, \$12,780.73; West Springfield, \$3,111.53.
Hampshire County.—Easthampton, \$82,238.60.
Norfolk County.—Dedham, \$42,607.07; Wrentham, \$98,889.69.
Plymouth County.—Mattapoisett, \$82,398.40; Plymouth, \$9,607.92.
Worcester County.—Charlton, \$169,837.51; Gardner, \$77,977.75; Oxford, \$31,728.32; Sturbridge, \$461,727.14; Templeton, \$125,504.37.

MAINTENANCE AND REPAIR OF STATE HIGHWAYS

(Section 13, chapter 81, General Laws, and chapter 146, Acts of 1929)

The expenditures during the year in the various counties were:—

Barnstable, \$260,213.85	Hampshire, \$205,161.57
Berkshire, \$743,835.94	Middlesex, \$437,930.13
Bristol, \$601,954.28	Nantucket, \$305.65
Dukes, \$6,580.73	Norfolk, \$163,004.80
Essex, \$895,870.60	Plymouth, \$630,247.47
Franklin, \$679,400.25	Suffolk, \$106,057.45
Hampden, \$371,993.41	Worcester, \$1,519,232.81
	*Total, \$6,621,788.94

Details of the foregoing expenditures follow:—

Barnstable County.—Barnstable, \$63,606.15; Bourne, \$12,725.62; Brewster, \$3,349.10; Chatham, \$1,937.63; Dennis, \$69,827.20; Eastham, \$2,234.32; Falmouth, \$71,617.28; Harwich, \$1,507.22; Mashpee, \$11,449.93; Orleans, \$1,385.26; Provincetown, \$1,628.60; Sandwich, \$5,152.82; Truro, \$2,803.31; Wellfleet, \$2,347.87; Yarmouth, \$8,641.54.

Berkshire County.—Adams, \$2,443.97; Becket, \$22,507.47; Cheshire, \$6,087.40; Clarksburg, \$13,866.25; Dalton, \$3,005.05; Egremont, \$5,717.20; Florida, \$284,664.85; Great Barrington, \$13,274.24; Hancock, \$11,497.83; Hinsdale, \$3,028.23; Lanesboro, \$2,912.87; Lee, \$6,781.53; Lenox, \$4,957.20; New Ashford, \$1,501.54; New Marlboro, \$225.69; North Adams, \$184,145.99; Otis, \$4,836.57; Pittsfield, \$11,471.11; Richmond, \$7,172.16; Sandisfield, \$2,616.01; Savoy, \$107,739.28; Sheffield, \$7,642.15; Stockbridge, \$5,148.03; Washington, \$2,332.17; West Stockbridge, \$280.85; Williamstown, \$21,256.03; Windsor, \$6,724.27.

Bristol County.—Acushnet, \$4,205.07; Attleboro, \$32,541.63; Berkeley, \$637.47; Dartmouth, \$6,884.44; Dighton, \$18,061.87; Easton, \$5,562.29; Fairhaven, \$3,012.50; Fall River, \$26,004.34; Freetown, \$4,406.61; Mansfield, \$8,853.26; North Attleborough, \$2,265.73; Norton, \$98,148.43; Raynham, \$4,262.54; Rehoboth, \$108,055.05; Seekonk, \$166,491.36; Somerset, \$44,682.56; Swansea, \$22,183.25; Taunton, \$15,443.56; Westport, \$30,252.32.

Dukes County.—Chilmark, \$1,498.68; Edgartown, \$1,036.29; Gay Head, \$1,007.28; Oak Bluffs, \$602.40; Tisbury, \$681.34; West Tisbury, \$1,754.74.

Essex County.—Amesbury, \$10,827.87; Andover, \$2,574.25; Beverly, \$6,203.37; Danvers, \$118,474.00; Essex, \$2,478.24; Gloucester, \$116,305.44; Groveland, \$16,949.69; Hamilton, \$4,011.60; Haverhill, \$2,693.64; Ipswich, \$34,106.49; Lawrence, \$1,194.22; Lynn, \$19,378.05; Lynnfield, \$33,705.80; Merrimac, \$1,144.04; Methuen, \$7,109.24; Middleton, \$5,180.46; Newbury, \$10,158.79; Newburyport, \$14,334.62; North Andover, \$135,482.23; Peabody, \$129,027.64; Rockport, \$616.56; Rowley, \$5,851.96; Salem, \$87,279.72; Salisbury, \$12,211.82; Saugus, \$31,818.42; Swampscott, \$2,930.39; Topsfield, \$76,928.70; Wenham, \$2,154.10; West Newbury, \$4,739.25.

Franklin County.—Ashfield, \$3,498.92; Bernardston, \$19,154.17; Buckland, \$6,370.19; Charlemont, \$138,159.37; Colrain, \$69,082.06; Conway, \$5,063.68; Deerfield, \$40,886.63; Erving, \$201,686.81; Gill, \$60.47; Greenfield, \$76,089.43; Montague, \$4,020.23; Northfield, \$11,194.71; Orange, \$2,537.31; Shelburne, \$82,009.94; Sunderland, \$15,693.23; Whately, \$3,893.10.

Hampden County.—Agawam, \$6,852.28; Blandford, \$2,323.97; Brimfield, \$3,690.02; Chester, \$50,704.94; Chicopee, \$23,159.83; East Longmeadow, \$1,843.29; Holyoke, \$4,980.74; Monson, \$10,662.65; Palmer, \$19,714.15; Russell,

* In addition to this figure, the amount of \$229,413.89 was expended for snow removal.

\$126,078.03; Southwick, \$4,191.44; Tolland, \$3.37; Wales, \$2,741.18; West Springfield, \$2,787.40; Westfield, \$4,343.00; Wilbraham, \$107,917.12.

Hampshire County.—Amherst, \$20,058.23; Belchertown, \$4,687.34; Cummington, \$11,580.49; Easthampton, \$15,370.83; Goshen, \$4,924.74; Granby, \$6,144.81; Hadley, \$6,389.73; Hatfield, \$2,328.81; Huntington, \$71,140.83; Northampton, \$37,672.35; South Hadley, \$6,524.96; Southampton, \$2,614.34; Ware, \$12,133.41; Williamsburg, \$3,590.70.

Middlesex County.—Acton, \$3,834.14; Arlington, \$1,991.28; Ashby, \$5,843.14; Ashland, \$2,339.96; Ayer, \$13,224.89; Bedford, \$1,882.73; Billerica, \$6,372.27; Boxborough, \$3,600.78; Burlington, \$1,679.85; Chelmsford, \$2,550.13; Concord, \$4,303.36; Dracut, \$6,043.64; Framingham, \$101,676.14; Groton, \$6,661.13; Holliston, \$5,223.81; Hudson, \$1,647.59; Lexington, \$5,875.46; Lincoln, \$953.59; Littleton, \$6,824.03; Lowell, \$2,229.17; Malden, \$41.52; Marlborough, \$32,817.39; Medford, \$1,063.68; Melrose, \$593.59; Natick, \$1,847.48; Newton, \$7,522.63; North Reading, \$1,870.17; Pepperell, \$133,923.57; Reading, \$7,674.03; Shirley, \$3,325.00; Somerville, \$936.27; Stoneham, \$1,584.84; Sudbury, \$5,197.67; Tewksbury, \$3,724.69; Townsend, \$23,448.98; Tyngsborough, \$2,844.34; Waltham, \$628.68; Watertown, \$3,763.03; Wayland, \$2,920.76; Westford, \$1,860.25; Weston, \$3,362.65; Wilmington, \$3,687.49; Winchester, \$1,188.23; Woburn, \$7,346.10.

Nantucket County.—Nantucket, \$305.65.

Norfolk County.—Avon, \$1,528.58; Bellingham, \$19,027.16; Braintree, \$10,932.50; Canton, \$5,768.13; Cohasset, \$865.92; Dedham, \$10,024.07; Dover, \$17,387.54; Foxborough, \$7,552.06; Franklin, \$17,719.83; Holbrook, \$5,339.92; Milton, \$8,161.43; Needham, \$6,408.21; Norfolk, \$940.35; Norwood, \$2,055.32; Plainville, \$1,809.32; Quincy, \$6,936.97; Randolph, \$3,181.82; Sharon, \$222.72; Stoughton, \$4,016.66; Walpole, \$2,754.47; Wellesley, \$734.20; Westwood, \$8,740.96; Weymouth, \$9,798.67; Wrentham, \$11,097.99.

Plymouth County.—Abington, \$16,781.59; Bridgewater, \$4,128.05; Brockton, \$2,131.19; Duxbury, \$1,301.31; East Bridgewater, \$813.90; Hanover, \$1,206.66; Hingham, \$10,211.87; Kingston, \$104,354.82; Lakeville, \$6,635.01; Marion, \$58,648.93; Marshfield, \$6,459.01; Mattapoisett, \$2,702.66; Middleborough, \$7,898.16; Norwell, \$1,308.19; Pembroke, \$1,003.64; Plymouth, \$276,278.69; Rochester, \$695.11; Rockland, \$3,424.90; Scituate, \$1,936.70; Wareham, \$119,687.16; West Bridgewater, \$1,020.52; Whitman, \$1,619.40.

Suffolk County.—Boston, \$2,983.05; Chelsea, \$95,002.59; Revere, \$8,071.81.

Worcester County.—Ashburnham, \$160,388.64; Athol, \$54,951.17; Auburn, \$5,824.64; Barre, \$16,533.90; Blackstone, \$1,047.48; Brookfield, \$865.67; Charlton, \$8,009.51; Douglas, \$1,577.00; Dudley, \$26,098.31; East Brookfield, \$1,900.70; Fitchburg, \$3,066.48; Gardner, \$10,358.49; Grafton, \$207,948.29; Hardwick, \$1,816.94; Harvard, \$4,169.44; Holden, \$17,326.74; Hopedale, \$22,390.83; Lancaster, \$1,018.85; Leicester, \$6,751.65; Leominster, \$16,128.93; Lunenburg, \$4,474.69; Mendon, \$4,441.79; Milford, \$167,897.99; Millbury, \$46,532.35; Millville, \$1,208.92; New Braintree, \$516.12; North Brookfield, \$1,650.09; Northboro, \$8,939.49; Northbridge, \$3,339.40; Oakham, \$1,635.62; Oxford, \$11,230.87; Paxton, \$3,137.55; Petersham, \$11,391.41; Phillipston, \$106,823.47; Princeton, \$1,727.12; Rutland, \$7,693.97; Shrewsbury, \$5,841.65; Southborough, \$61,756.67; Southbridge, \$779.93; Spencer, \$27,262.30; Sterling, \$20,046.72; Sturbridge, \$4,365.32; Sutton, \$5,316.28; Templeton, \$18,989.18; Upton, \$144,509.82; Uxbridge, \$14,563.09; Warren, \$4,334.35; Webster, \$2,635.58; West Boylston, \$23,611.66; West Brookfield, \$11,911.24; Westborough, \$2,365.99; Westminster, \$45,988.71; Winchendon, \$168,413.44; Worcester, \$5,726.37.

REMOVAL OF SNOW AND ICE FROM STATE HIGHWAYS

(Section 19, chapter 81, General Laws, as amended by chapter 273, Acts of 1927)

The authority of the Department relative to the removal of snow and ice from State highways has been provided by section 19, chapter 81, General Laws, as amended by chapter 273, Acts of 1927.

The cooperation of the Department with officers of cities, towns and counties in keeping open and reasonably passable for vehicles during the winter months

In accordance with the provisions of these laws, the Department selected 1,500 miles of highways on the principal routes of travel, 1,300 miles of which are State highways and 150 miles town highways.

The expenditures by the Department for snow removal during the year under the provisions of both the above-mentioned laws amounted to a total of \$229,413.79.

Contracts were entered into during the year, as follows, for the construction of public highways in the city of Quincy in accordance with the provisions of chapter 259, Acts of 1928, in the city of Cambridge in accordance with the provisions of chapter 366, Acts of 1928, and in the towns of Weymouth, Hingham and Braintree, and the city of Malden in accordance with the provisions of chapter 364, Acts of 1929: —

Mar. 5, 1929, contract made with M. McDonough Company, of Saugus, for constructing about 1,785 feet of highway on Dorchester Street, the surface consisting of bituminous macadam. The proposal amounted to \$30,250.70. Work completed Oct. 22, 1929. Expenditure during 1929, \$39,178.74.

May 21, 1929, contract made with Coleman Brothers, Inc., of Boston, for constructing about 9,046 feet of highway on new location, and on Concord Avenue, Fresh Pond Avenue, Wyeth Terrace and Fresh Pond Parkway, the surface consisting of bituminous macadam. The proposal amounted to \$469,538.00. Work about three-fourths completed. Expenditure during 1929, \$348,218.40.

Sept. 10, 1929, contract made with the Peerless Construction Company, of Boston, for constructing about 10,000 feet of highway on Plain, Grove and Columbian Streets in Braintree, about 15,655 feet of highway on the same road in Weymouth, and about 6,013 feet of highway on the same road in Hingham, the surface consisting of bituminous macadam. The proposal amounted to \$250,-292.50. Work about two-fifths completed. Expenditure during 1929, \$107,-499.28.

Sept. 17, 1929, contract made with C. M. Callahan, Inc., of Boston, for constructing about 8,075 feet of highway on Broadway, the surface consisting of bituminous macadam. The proposal amounted to \$118,285.50. Work about three-fifths completed. Expenditure during 1929, \$68,567.92.

Statements as to the acts of Congress and of the Massachusetts Legislature with respect to cooperation between the United States and the states in the construction and maintenance of highways, including the Federal Highway Act approved Nov. 9, 1921, may be found in the annual reports of this Department for the years 1920-1927, inc.

For fiscal year ending June 30, 1917	.	.	.	.	.	.	\$73,850 94
For fiscal year ending June 30, 1918	.	.	.	.	.	.	147,701 90

For fiscal year ending June 30, 1919	.	.	.	.	.	.	\$958,145	15
For fiscal year ending June 30, 1920	.	.	.	.	.	.	1,400,078	27
For fiscal year ending June 30, 1921	.	.	.	.	.	.	1,472,788	83
For fiscal year ending June 30, 1922	.	.	.	.	.	.	1,096,176	04
For fiscal year ending June 30, 1923	.	.	.	.	.	.	730,784	03
For fiscal year ending June 30, 1924	.	.	.	.	.	.	950,448	62
For fiscal year ending June 30, 1925	.	.	.	.	.	.	1,089,806	22
For fiscal year ending June 30, 1926	.	.	.	.	.	.	1,099,891	00
For fiscal year ending June 30, 1927	.	.	.	.	.	.	1,089,055	00
For fiscal year ending June 30, 1928	.	.	.	.	.	.	1,089,100	00
For fiscal year ending June 30, 1929	.	.	.	.	.	.	1,088,808	00
For fiscal year ending June 30, 1930	.	.	.	.	.	.	1,090,077	00

Total \$13,376,711 00

The total amount received by Massachusetts from 1916 to Nov 30, 1929, is \$9,578,839.55.

Projects to the number of 24 have been prepared in addition to those shown in the report of the Department of Public Works for 1928. The total mileage included in the various Federal aid road projects in this state, from the commencement of work of this character to Nov. 30, 1929, inclusive, is 682.967. The mileage in various counties is:—

Barnstable, 64.712 miles
 Berkshire, 92.605 miles
 Bristol, 69.292 miles
 Dukes, 3.117 miles
 Essex, 62.037 miles
 Franklin, 28.277 miles

Hampden, 47.807 miles
 Hampshire, 41.329 miles
 Middlesex, 59.255 miles
 Norfolk, 38.599 miles
 Plymouth, 63.009 miles
 Worcester, 112.928 miles

STATEMENT OF FEDERAL AID ROAD PROJECTS* TO NOV. 30, 1929

No.	TOWN OR CITY	Miles	Amount of Federal Aid involved	Amount received	Remarks
1	Acushnet-Fairhaven	2.182	\$21,820 00	\$21,820 00	Work completed.
2	Hanover	2.708	19,480 36	19,480 36	Work completed.
3	Malden-Melrose-Saugus	1.162	11,620 00	11,620 00	Work completed.
4	Danvers	1.325	15,460 22	15,460 22	Work completed.
5	Windsor-Dalton	3.240	64,800 00	64,800 00	Work completed.
6	Sandwich	1.818	10,678 02	10,678 02	Work completed.
7	Cummington	4.659	86,816 53	86,816 53	Work completed.
8	Athol-Petersham	7.016	90,074 51	90,074 51	Work completed.
9	Saugus	3.122	65,472 27	65,472 27	Work completed.
10	Braintree	2.420	40,554 80	40,554 80	Work completed.
11	Concord-Acton-Littleton	4.849	77,600 87	77,600 87	Work completed.
12	Ipswich	2.173	21,851 50	21,851 50	Work completed.
13	Littleton-Groton	6.450	130,504 25	130,504 25	Work completed.
14	Barnstable	3.331	22,687 65	22,687 65	Work completed.
15	Norwell-Hingham	4.380	59,501 75	59,501 75	Work completed.
17	Lynnfield-Peabody	1.794	35,880 00	35,880 00	Work completed.
18	Lunenburg	2.797	55,940 00	55,940 00	Work completed.
19	Taunton	2.116	42,320 00	42,320 00	Work completed.
20	Tewksbury	2.909	35,211 82	35,211 82	Work completed.
21	Pittsfield-Hancock	3.637	72,483 32	72,483 32	Work completed.
22	Greenfield-Bernardston	6.426	88,270 71	88,270 71	Work completed.
23	Great Barrington	2.123	31,348 89	31,348 89	Work completed.
24	Seekonk	2.756	19,527 75	19,527 75	Work completed.
R24	Seekonk	2.756	41,340 00		Work completed.
25	Billerica	0.578	38,389 77	38,389 77	Work completed.
26	Greenfield-Shelburne:				
	Section 1	5.134	102,680 00	102,680 00	Work completed.
	Section 2	4.401	88,020 00	88,020 00	Work completed.
27	Hamilton-Wenham	1.766	20,207 27	20,207 27	Work completed.
28	Lanesborough:				
	Section A	0.990	19,780 00	19,780 00	Work completed.
	Section B	2.690	53,800 00	53,800 00	Work completed.
29	Ware	2.626	46,557 55	46,557 55	Work completed.
30	Brimfield	4.206	84,120 00	84,120 00	Work completed.
31	Danvers-Peabody	1.107	22,140 00	22,140 00	Work completed.
32	Huntington	3.078	97,163 48	97,163 48	Work completed.
33	Acton-Littleton:				
	Section A	2.182	43,640 00	43,640 00	Work completed.
	Section B	1.624	25,847 25	25,847 25	Work completed.

* All of these projects are now, or will be later, State highways.

STATEMENT OF FEDERAL AID ROAD PROJECTS TO NOV. 30, 1929 — *Continued*

No.	TOWN OR CITY	Miles	Amount of Federal Aid involved	Amount received	Remarks
34	Dudley	1.359	\$27,180 00	\$27,180 00	Work completed.
35	Haverhill-Methuen	4.544	90,880 00	90,880 00	Work completed.
36	Eastham-Wellfleet-Provincetown:				
	Section A	10.690	91,347 85	91,347 85	Work completed.
	Section B	6.548	75,935 60	75,935 60	Work completed.
	Section C	8.043	86,130 51	86,130 51	Work completed.
37	Egremont	1.164	20,579 07	20,579 07	Work completed.
38	Peabody-Danvers	2.827	56,540 00	56,540 00	Work completed.
39	Williamstown-New Ashford- Lanesborough:				
	Section A	0.020	9,123 64	9,123 64	Work completed.
	Section B	3.323	65,980 00	65,980 00	Work completed.
	Section C	4.590	68,850 00		Work completed.
40	East Brookfield	1.011	20,220 00	20,220 00	Work completed.
41	Ashby	1.250	22,141 03	22,141 03	Work completed.
42	Washington	2.291	45,820 00	45,820 00	Work completed.
43	Leicester	0.638	12,760 00	12,760 00	Work completed.
44	Goshen-Cummington-Windsor:				
	Section A	1.494	29,880 00	29,880 00	Work completed.
	Section B	1.479	50,183 37	50,183 37	Work completed.
	Section C	3.780	82,915 42	82,915 42	Work completed.
45	Palmer:				
	Sections A and C	1.795	35,900 00	35,900 00	Work completed.
46	Upton-Hopedale:				
	Section A	1.672	33,440 00	33,440 00	Work completed.
47	Barre-Oakham	1.737	37,200 75	37,200 75	Work completed.
50	Lunenburg	1.763	35,260 00	35,260 00	Work completed.
51	Mendon-Uxbridge:				
	Section A	1.959	39,180 00	39,180 00	Work completed.
	Section B	2.504	50,080 00	50,080 00	Work completed.
52	Oxford	3.208	64,160 00	64,160 00	Work completed.
53	East Brookfield-Spencer-West Brookfield:				
	Section A	0.890	17,800 00	17,800 00	Work completed.
	Section B	1.682	33,640 00	33,640 00	Work completed.
54	Leicester:				
	Section A	0.829	16,580 00	16,580 00	Work completed.
	Section B	2.691	53,820 00	53,820 00	Work completed.
55	Quincy	0.549	10,980 00	10,980 00	Work completed.
56	Stoughton	2.141	42,820 00	42,820 00	Work completed.
57	Winchester-Woburn	3.042	59,131 31	59,131 31	Work completed.
58	Littleton	1.345	26,900 00	26,900 00	Work completed.
59	Egremont	0.784	15,678 18	15,678 18	Work completed.
60	Middleton-Danvers	1.907	38,224 70	38,224 70	Work completed.
61	Winchendon-Templeton	5.393	106,117 44	106,117 44	Work completed.
62	Danvers-Topsfield:				
	Section A	3.009	60,180 00	60,180 00	Work completed.
	Section B	3.513	76,959 91	76,959 91	Work completed.
63	Essex-Ipswich	4.489	89,780 00	89,780 00	Work completed.
64	Norwood	1.065	21,300 00	21,300 00	Work completed.
65	North Adams	1.638	32,760 00	32,760 00	Work completed.
69	Haverhill	2.657	53,049 24	53,049 24	Work completed.
70	Palmer	2.550	51,000 00	51,000 00	Work completed.
71	Wrentham	1.846	36,940 00	36,940 00	Work completed.
72	Walpole	3.078	61,560 00	61,560 00	Work completed.
73	Southwick	6.879	111,757 95	111,757 95	Work completed.
74	Becket	0.156	13,095 66	13,095 66	Work completed.
R74	Becket	0.189	10,988 45		Work completed.
75	Topsfield-Ipswich-Rowley-Newbury:				
	Section A	10.207	207,163 37	207,163 37	Work completed.
76	Norfolk	1.447	28,940 00	28,940 00	Work completed.
77	Merrimac	1.020	20,397 73	20,397 73	Work completed.
78	Burlington	3.761	75,220 00	75,220 00	Work completed.
79	Great Barrington	2.991	59,820 00	59,820 00	Work completed.
79B	Great Barrington	0.028	10,098 38		Work completed.
80	Lee:				
	Section A	0.909	18,180 00	18,180 00	Work completed.
	Section B	0.283	4,245 00	4,245 00	Work completed.
83	Pembroke	2.121	31,815 00	31,815 00	Work completed.
84	Sterling-West Boylston	3.491	51,974 04	51,974 04	Work completed.
85	Dalton-(Hinsdale Road):				
	Section A	1.033	20,660 00	20,660 00	Work completed.
	Section B	0.066	7,120 50	7,120 50	Work completed.
	Gay Head	3.117	40,783 51	40,783 51	Work completed.
87	Dalton (Windsor Road):				
	Section A	1.056	21,120 00	21,120 00	Work completed.
	Section B	0.038	5,429 50	5,429 50	Work completed.
88	Erving	4.537	68,055 00		Work underway.
89	Easton:				
	Sections A and B	3.540	70,800 00	70,800 00	Work completed.
	Section C	3.840	62,400 00	62,400 00	Work completed.
90	Brookfield-E. Brookfield	1.227	25,324 95	25,324 95	Work completed.
91	Lowell	0.977	19,537 87	19,537 87	Work completed.
93	Wilbraham	0.208	67,506 06	67,506 06	Work completed.
94	Otis-Sandisfield	7.565	122,931 25	122,931 25	Work completed.

STATEMENT OF FEDERAL AID ROAD PROJECTS TO NOV. 30, 1929 — *Continued*

No.	TOWN OR CITY	Miles	Amount of Federal Aid involved	Amount received	Remarks
95	Westfield	0.148	\$12,677 08	\$12,677 08	Work completed.
96	Rochester-Wareham	4.031	68,979 93	68,979 93	Work completed.
98	Sheffield	3.052	61,133 85	61,133 85	Work completed.
99	Gloucester	1.191	19,353 75	19,353 75	Work completed.
100	Rutland	3.640	59,150 00	59,150 00	Work completed.
101A	Hinsdale	0.297	4,455 00	4,455 00	Work completed.
101B	Hinsdale	0.858	24,116 51	24,116 51	Work completed.
102A	Plainville-Wrentham	3.254	48,810 00	48,810 00	Work completed.
103	Adams	0.568	9,230 00	9,230 00	Work completed.
104	Milton	3.534	70,680 00	70,680 00	Work completed.
105	Rehoboth	1.438	28,760 00	28,760 00	Work completed.
106	Bourne	0.522	35,002 00	35,002 00	Work completed.
107	Southampton	2.203	44,060 00	44,060 00	Work completed.
108	Lakeville-Freetown	4.583	71,706 11	71,706 11	Work completed.
109	West Brookfield	0.066	10,283 73	10,283 73	Work completed.
110	Middleborough-Bridgewater	0.109	24,580 87	24,580 87	Work completed.
111	Brantree	0.371	7,200 00	7,200 00	Work completed.
112	North Attleborough-Attleborough	3.278	65,560 00	65,560 00	Work completed.
113	Swansea	0.692	11,245 00	11,245 00	Work completed.
113B	Swansea-Somerset	3.503	64,439 74	64,439 74	Work completed.
114	Lenox	2.408	39,130 00	39,130 00	Work completed.
115	Plymouth	1.680	25,522 53	25,522 53	Work completed.
116	Norwood-Walpole	2.453	40,878 91	40,878 91	Work completed.
117A	Chelmsford	1.377	27,540 00	27,540 00	Work completed.
117B	Chelmsford-Tyngsboro	4.625	89,713 81	89,713 81	Work completed.
118A	Brookfield	0.620	12,400 00	12,400 00	Work completed.
118B	Brookfield	0.251	3,765 00	3,765 00	Work completed.
119A	Essex	0.406	8,120 00	8,120 00	Work completed.
120A	Lakeville	4.789	71,835 00	71,835 00	Work completed.
120B	Berkeley	0.864	12,960 00	12,960 00	Work completed.
120C	Taunton-Berkeley	2.758	41,370 00	41,370 00	Work completed.
120D	Taunton	0.862	12,930 00	12,930 00	Work completed.
121A	Abington	0.947	17,887 34	17,887 34	Work completed.
121B	Bridgewater	0.113	16,568 31	16,568 31	Work completed.
121C	Weymouth	2.720	40,800 00	40,800 00	Work completed.
121D	East Bridgewater-Whitman	2.000	30,000 00	30,000 00	Work completed.
121E	Abington	1.088	14,770 42	14,770 42	Work completed.
122A	Barnstable	0.066	18,711 51	18,711 51	Work completed.
122B	Barnstable-Mashpee	2.482	36,349 09	36,349 09	Work completed.
122C	Falmouth-Mashpee	8.137	132,939 21		Work completed.
123A	Southampton	2.461	47,155 67	47,155 67	Work completed.
124A	Wayland	0.189	30,296 68	30,296 68	Work completed.
124B	Marlborough	1.626	24,390 00	24,390 00	Work completed.
125A	Wareham	3.086	68,316 11	68,316 11	Work completed.
125B	Wareham	2.761	41,415 00	41,415 00	Work completed.
127A	Holyoke	4.136	62,040 00	62,040 00	Work completed.
127B	Easthampton-Northampton	1.762	84,084 87		Work completed.
128A	Hinsdale	0.066	8,598 63	8,598 63	Work completed.
128B	Hinsdale	0.952	14,280 00	14,280 00	Work completed.
129A	Dighton-Somerset	3.465	51,975 00	51,975 00	Work completed.
129B	Somerset	4.340	65,511 29	65,511 29	Work completed.
130A	Auburn-Oxford	4.208	63,120 00	63,120 00	Work completed.
131A	Wilbraham	0.530	7,950 00	7,950 00	Work completed.
131B	Wilbraham	1.012	15,180 00	15,180 00	Work completed.
132A	Duxbury-Kingston	2.123	31,845 00	31,845 00	Work completed.
133A	North Andover	0.615	9,225 00	9,225 00	Work completed.
133B	North Andover	0.771	11,565 00	11,565 00	Work completed.
134A	Barre	1.217	18,255 00	18,255 00	Work completed.
134B	Barre	1.261	18,915 00	18,915 00	Work completed.
134C	Barre	1.617	24,255 00		PS & E Appr.
135A	Russell	0.557	13,919 60	13,919 60	Work completed.
135B	Westfield-Russell	3.607	54,075 00	54,075 00	Work completed.
135C	Russell	3.291	54,052 37		Work completed.
135D	Russell-Huntington	3.670	55,050 00		Work completed.
136A	Agawam	1.331	19,965 00	19,965 00	Work completed.
136B	Agawam	1.515	22,725 00	22,725 00	Work completed.
136C	Agawam	1.000	15,000 00	15,000 00	Work completed.
137A	Sheffield	0.170	22,710 05	22,710 05	Work completed.
138A	Chester	0.097	10,818 36	10,818 36	Work completed.
138B	Chester	4.250	99,063 09		Work underway.
139A	Brimfield	0.103	6,075 05	6,075 05	Work completed.
139B	Brimfield	4.778	69,410 72		Work completed.
140A	Lenox-Lee	3.519	52,785 00	52,785 00	Work completed.
140B	Lee	0.057	26,620 13	26,620 13	Work completed.
141A	Williamsburg	0.211	8,880 65	8,880 65	Work completed.
141B	Goshen-Williamsburg	5.042	93,547 40	93,547 40	Work completed.
141C	Northampton-Williamsburg	4.146	62,190 00	62,190 00	Work completed.
142A	Fitchburg-Westminster	3.960	69,171 34	69,171 34	Work completed.
142B	Gardner-Westminster	3.699	52,316 73	52,316 73	Work completed.
143	Fairhaven-Mattapoisett	3.245	52,079 86	52,079 86	Work completed.
144A	Canton-Stoughton	4.306	64,436 20	64,436 20	Work completed.
145A	Ashland-Holliston	3.330	34,645 01	34,645 01	Work completed.
146A	Paxton	1.783	26,745 00	26,745 00	Work completed.
146B	Paxton-Worcester	4.930	73,950 00	73,950 00	Work completed.
147A	Lenox-Pittsfield	2.349	35,235 00		Work completed.

STATEMENT OF FEDERAL AID ROAD PROJECTS TO NOV. 30, 1929 — *Continued*

No.	TOWN OR CITY	Miles	Amount of Federal Aid involved	Amount received	Remarks
148A	Raynham	1.657	\$24,855 00	\$24,855 00	Work completed.
148B	Raynham-Taunton	2.861	42,915 00	42,915 00	Work completed.
149A	Middleborough	5.586	83,790 00	83,790 00	Work completed.
150A	Littleton-Westford	1.985	29,775 00	29,775 00	Work completed.
150B	Westford	2.660	39,900 00	39,900 00	Work completed.
151A					
&B	Swansea-Somerset	0.464	89,138 06	89,138 06	Work completed.
152A	Dartmouth	1.401	21,015 00	21,015 00	Work completed.
152B	Dartmouth	2.858	42,870 00	42,870 00	Work completed.
152C	Westport	4.634	69,510 00		Work completed.
153A	Southampton-Easthampton	1.410	21,150 00	21,150 00	Work completed.
154A	Sturbridge	2.503	37,545 00	37,545 00	Work completed.
155A	West Springfield	0.549	8,235 00	8,235 00	Work completed.
156A	Orange	1.058	15,870 00	15,870 00	Work completed.
157A	Sandisfield-Tolland	0.644	34,803 50	34,803 50	Work completed.
R157					
A	Sandisfield-Tolland	0.644	5,660 87		Work completed.
157B	Sandisfield	0.473	32,037 28	32,037 28	Work completed.
157C	Sandisfield-Tolland	3.038	45,570 00		Work completed.
158A	Dalton	0.430	22,087 67	22,087 67	Work completed.
159A	Seekonk-Rehoboth-Swansea	1.899	49,876 52	49,876 52	Work completed.
159B	Seekonk	2.251	33,765 00	33,765 00	Work completed.
159C	Swansea	2.767	41,505 00	41,505 00	Work completed.
160A	Lenox-Lee-Stockbridge	5.453	81,795 00	81,795 00	Work completed.
161A	Brockton-W. Bridgewater	3.823	57,345 00	57,345 00	Work completed.
162A	Holliston	3.315	49,725 00	49,725 00	Work completed.
162B	Milford	1.790	26,850 00		Work completed.
163A	Amherst	0.052	3,787 09	3,787 09	Work completed.
163B	Amherst	2.100	31,500 00	31,500 00	Work completed.
164A	Westminster-Winchendon	0.750	48,475 74	26,555 45	Work completed.
164B	Westminster-Ashburnham	3.607	54,105 00		Work completed.
164C	Ashburnham	3.776	56,640 00		Work completed.
164D	Winchendon	2.826	42,390 00		Work completed.
165A	Winchendon	2.460	36,900 00	36,900 00	Work completed.
166	Becket-Otis	6.043	99,077 00	99,077 00	Work completed.
168A	Deerfield	3.043	45,645 00	45,645 00	Work completed.
169A	Merrimac-Amesbury	3.397	50,955 00	50,955 00	Work completed.
171A	Chelmsford	1.536	23,040 00	23,040 00	Work completed.
172A	Leominster-Sterling	2.718	40,770 00	40,770 00	Work completed.
173A	Cheshire	4.377	74,965 81	74,965 81	Work completed.
173B	Lanesboro	1.742	26,130 00		Work completed.
174A	Marshfield	4.533	67,995 00	67,995 00	Work completed.
175A	Sandwich	0.217	22,181 26	22,181 26	Work completed.
175B	Orleans	1.904	23,601 55	23,601 55	Work completed.
175C	Barnstable	0.927	13,905 00		Work completed.
176A	Plymouth	5.032	70,543 35	70,543 35	Work completed.
177A	Chatham	3.964	48,588 18	48,588 18	Work completed.
177B	Orleans	1.802	25,838 02	25,838 02	Work completed.
177C	Dennis	3.219	48,258 37		Work underway.
178A	Chelmsford	1.262	18,930 00	18,930 00	Work completed.
179A	Falmouth	3.394	50,910 00	50,910 00	Work completed.
180A	Franklin-Wrentham	3.125	46,875 00	46,875 00	Work completed.
180B	Bellingham-Franklin	3.889	58,335 00	58,335 00	Work completed.
181A	Florida-North Adams	2.818	42,270 00		Work completed.
181B	Florida	2.736	41,040 00		Work completed.
181C	North Adams-Clarksburg	3.362	50,430 00		Work completed.
181D	Florida-Savoy	3.702	55,530 00		Work underway.
182A	Lunenburg	1.312	19,680 00	19,680 00	Work completed.
183A	Amesbury-Salisbury	1.922	28,830 00	28,830 00	Work completed.
183B	Amesbury	1.329	45,345 32		Work completed.
184A	Charlton	2.848	42,720 00	42,720 00	Work completed.
184B	Charlton-Sturbridge	5.623	84,345 00		Work completed.
185A	Buckland	1.245	18,675 00	18,675 00	Work completed.
185B	Charlemont	2.433	36,495 00		Work underway.
186	Salisbury	2.405	36,075 00	36,075 00	Work completed.
187A	Bellingham	1.225	18,375 00	18,375 00	Work completed.
188A	Townsend	3.813	57,195 00		Work completed.
188B	Pepperell-Groton	3.368	50,520 00		Work completed.
189A	Marion-Wareham	0.582	82,770 63		Work underway.
189B	Mattapoisett	1.804	27,060 00		Work completed.
190A	Becket	2.254	33,810 00		Work completed.
191A	Falmouth	5.896	81,094 43	81,094 43	Work completed.
191B	Falmouth	1.752	26,280 00		Work completed.
192A	Groveland	1.643	24,645 00	24,645 00	Work completed.
192B	Newburyport	1.745	26,175 00	26,175 00	Work completed.
193A	Hadley	1.985	25,821 78	25,821 78	Work completed.
193B	Hadley	2.662	31,715 99		PS&E Appr.
194A	Athol-Phillipston-Templeton	4.738	71,070 00		Work underway.
195A	Mansfield-Norton	0.960	17,862 40	17,862 40	Work completed.
195B	Mansfield-Norton	2.617	39,255 00		Work completed.
196A	Millbury-Grafton	4.440	66,600 00		Work completed.
197	Plymouth	6.543	98,035 70		Work completed.
198A	Milford-Hopedale-Upton	4.418	66,270 00		Work underway.
199A	Newbury	0.303	163,208 90		Work underway.

STATEMENT OF FEDERAL AID ROAD PROJECTS TO NOV. 30, 1929 — *Concluded*

No.	TOWN OR CITY	Miles	Amount of Federal Aid involved	Amount received	Remarks
200A	Rehoboth	1.875	\$28,125 00		Work completed.
201	Willbraham	1.530	22,950 00		Work underway.
203	Natick-Wellesley	2.066	30,990 00		PS&E Appr.
Total		682.967	\$11,994,512 71	\$9,578,839 55	

BRIDGES

During the year the Department has prepared designs and plans for, and done other work relating to, bridges throughout the Commonwealth. The various cities and towns, the localities therein, the character of the structure and other details are as follows:

BRIDGES AND STRUCTURES BUILT OR CONTRACTED FOR

Cities and Towns, Locality and Character of Structure

- Becket — Washington Mountain Road over Brooker Hill Brook; one 20-foot span, reinforced concrete slab.
- Braintree — Plain Street over Monatiquot River; one 19-foot span, reinforced concrete beam.
- Cambridge — Alewife Brook Traffic Road, two bridges over Boston and Maine Railroad; over Fitchburg Division two 158-foot through truss spans with two 40-foot steel stringer approach spans; and over Central Massachusetts Division one 87-foot span through plate girder with two 40-foot steel stringer approach spans.
- Charleton — State highway over Little River, one 17-foot span, reinforced concrete beam.
- Chelmsford — Billerica Road over River Meadow Brook; one 17-foot span, reinforced concrete slab.
- Cheshire — Savoy Road over Dry Brook; one 46-foot span, reinforced concrete beam.
- Chester — Jacobs Ladder Road over branch of Boston and Albany Railroad; one 40-foot span, reinforced concrete slab.
- Colrain — Shelburne Falls Road over brook; one 20-foot span, reinforced concrete beam.
- Gardner — Templeton Road over Otter River; one 16-foot span, reinforced concrete beam.
- Grafton — Worcester Street over Sunny Brook; one 11-foot span, reinforced concrete slab.
- Hopedale — West Street over Mill River at Milford line; one 12-foot span, reinforced concrete slab.
- Ludlow — West Street over Fuller Brook; one 28-foot span, reinforced concrete beam.
- Marion — Wareham Road over Weweantic River at Wareham line; two 49.7-foot spans, reinforced concrete beam.
- Maynard — Russell Bridge over Assabet River at Stow Line; two 23-foot and two 22-foot spans, reinforced concrete pile trestle.
- Monson — State Avenue over Quaboag River at Palmer line; one 44-foot and two 38-foot spans, reinforced concrete beam.
- Newbury — Main Street, Byfield, over Parker River; one 15-foot span, reinforced concrete beam.
- Newbury — Shore Road over Parker River; five 60-foot spans, reinforced concrete beam.
- Newton — Washington Street over Charles River at Wellesley line; two 40-foot and one 46-foot spans, reinforced concrete arch, granite faced.
- Northfield — Northfield Farms Road over Four Mile Brook; one 18-foot span, reinforced concrete beam.
- Paxton — North Spencer Road over Turkey Hill Brook; one 13-foot span, reinforced concrete slab.

- Petersham — Phillipston Road over Swift River; one 19-foot span, reinforced concrete slab.
- Rehoboth — Taunton-Providence Road over Palmer River; one 15-foot span, reinforced concrete slab.
- Sterling — Princeton Road over Stillwater River; one 30-foot span, reinforced concrete beam.
- Sturbridge — Holland Road over Quinebaug River; six 20-foot spans, reinforced concrete pile trestle.
- Wareham — Marion Road over Weweantic River; one 48-foot and two 43-foot spans, reinforced concrete beam.
- Westfield — Holyoke Road over Hampden Pond; one 9.5-foot span, reinforced concrete slab.
- Weymouth — Columbian Street over New York, New Haven and Hartford Railroad; one 53.5-foot span, steel plate girder.

ALTERATIONS, REPAIRS AND EXTENSIONS TO BRIDGES AND STRUCTURES
COMPLETED IN 1929

Cities and Towns, Locality and Character of Work

- Andover — North Main Street over Shawsheen River; reinforced concrete extension of stone arch.
- Canton — Neponset Street over Canton River; reinforced concrete arch extension of stone arch.
- Charlemont — Mohawk Trail over Trout Brook; extension of reinforced concrete slab.
- Chester — Jacobs Ladder Road over Sanderson Brook; extension of reinforced concrete beam.
- Chester — Jacobs Ladder Road over branch of Walker Brook; reinforced concrete slab.
- Chester — Jacobs Ladder Road over Austin Brook; reinforced concrete slab extension of twin stone culvert.
- East Bridgewater — North Central Street over Matfield River; reinforced concrete beam extension of stone arch.
- Gardner — Templeton Road over Bents Pond and Travers Pond; extension of reinforced concrete beam.
- Gardner — Templeton Road over Wilder Brook; reinforced concrete slab extension.
- Gardner — Templeton Road over pond; reinforced concrete slab extension.
- Ludlow — Fuller Street over Stony Brook; reinforced concrete arch extension of stone arch.
- Medway — Main Street over Chicken Brook; reinforced concrete slab extension of stone arch.
- Plymouth — State highway over Beaver Dam Brook; reinforced concrete arch extension of stone arch.
- Rehoboth — Taunton-Providence Road over Palmer River; reinforced concrete slab extension of two stone arches.
- Seekonk — Taunton-Providence Road over Runnins River; reinforced concrete slab extension of reinforced concrete culvert.
- Warren — Brimfield Road over Tufts Brook; reinforced concrete slab extension.
- Wilbraham — Palmer-Springfield Road over Brook; reinforced concrete slab extension of stone arch.
- Williamstown — Pownal Road over Hoosic River; raising steel span at northerly abutment.

CONTEMPLATED BRIDGES AND STRUCTURES

Plans, Studies or Estimates made

Cities and Towns, Locality and Character of Structure

- Barre — State highway over Prince River; one 38-foot span, reinforced concrete beam.
- Bernardston — Northfield Road over Boston and Maine Railroad; one 41-foot and two 40-foot spans, reinforced concrete beam.

- Dalton — Windsor Road over Wahconah Brook; two 30-foot spans, reinforced concrete beam.
- Natick — West Central Street over Reservoir; repairs to two 5-foot spans and to two 7-foot spans, culverts.
- Newbury — Newburyport Turnpike over Parker River; one 38.5-foot, two 40.5-foot and one 42.5-foot spans, reinforced concrete beam extension of reinforced concrete beam.
- Newton — Western Artery at Weston line, Metropolitan Planning Division scheme; over Hobbs Brook, one 10-foot span, reinforced concrete slab; over Boston and Maine Railroad, Fitchburg Division, one 140-foot span, steel through truss; over Stony Brook, one 15-foot span, reinforced concrete slab; under Boston and Maine Railroad, Central Massachusetts Division, one 60-foot span, deck plate girder; over Charles River, one 160-foot span, steel arch and four approach spans.
- Oakham — Athol-Worcester Road over Pond; one 24-foot span, reinforced concrete beam extension of reinforced concrete beam.
- Oakham — Athol-Worcester Road over Brook; one 10-foot span, reinforced concrete arch extension of stone arch.
- Orange — Athol-Gardner Road over Mill Pond; extension of 16-foot span, reinforced concrete beam on northerly side.
- Orange — Athol-Gardner Road over Orcutt Brook; one 18-foot span, extension of reinforced concrete beam.
- Sandisfield — At New Boston Village over Farmington River; one 75-foot span, steel pony truss.
- Templeton — Athol-Gardner Road over Otter River; one 16-foot span, reinforced concrete slab extension of steel stringer.
- Tyngsborough — County Road over Merrimack River; one 550-foot span, steel through arch.
- Tyngsborough — County Road over Boston and Maine Railroad; one 65-foot span, steel girder.
- Weston — Central Avenue over Stony Brook at Waltham line; reconstruction of 2-span stone culvert with 15-foot span, reinforced concrete slab.
- Weston — Central Avenue over Boston and Maine Railroad, Fitchburg Division of Stony Brook Station; one 64-foot span, steel plate girder and two 35-foot approach spans, reinforced concrete beam.
- Williamstown — Williamstown-Pittsfield Road over Green River; one 41.9-foot span, reinforced concrete beam.
- Windsor — Berkshire Trail over Baldwin Brook; one 20-foot span, reinforced concrete beam.

Examinations, Reports, Estimates, etc., at Request of Cities and Towns

Towns, Locality and Character of Work

- Bellingham — Hartford Avenue over Charles River; examination, report and estimate for reinforced concrete slab.
- Berlin — Bridge Road over Assabet River; examination, report and estimates to replace 49.5-foot span, wrought iron pony truss.
- Billerica — Whipple Street over Shawsheen River at Wilmington line; examination and plans for 17-foot span, reinforced concrete slab.
- Chesterfield — At Huntington line over Westfield River; examination and report on 140-foot span, wrought iron through truss.
- Clinton — Hudson Road over Nashua River; Lancaster Mills Bridge; examination and report on 89-foot and 95-foot spans, double bow-string pony truss.
- Danvers — Maple Street over Boston and Maine Railroad, Lawrence Branch; examination and report on 40-foot span, wood stringer.
- Framingham — Concord Avenue over Sudbury River; examination and report on 60-foot span, through plate girder.
- Framingham — Irving Street over Beaver Dam Brook; examination and report on wood bridge and plans prepared for reinforced concrete slab to be built by town.

- Framingham — Second Street over Beaver Dam Brook; examination and report on 8-foot span culvert.
- Grafton — Millbury Road over Quinsigamond River; examination and report on 16-foot and 17-foot span, stone arch.
- Great Barrington — State highway over Housatonic River; examination and report on 92-foot span, pony parabolic truss.
- Lanesborough — Town Road over Housatonic River; report and sketch for 18-foot span, steel I beam with concrete floor.
- Marshfield — Humarock Bridge over North River at Scituate line; examination and report on timber pile trestle.
- Middlefield — At Worthington line; report on two 21.5-foot spans, wood stringer.
- Ware — Palmer Road over Ware River, Three Mile Bridge; examination and report on 82.5-foot span, iron pony truss.
- Washington — Valley Road over Branch of Housatonic River; examination and report on 24-foot span, wooden bridge.
- Westhampton — Kings Highway over North Branch Manhan River; examination and report on 20-foot span, wood stringer.

*Examinations, Reports, Estimates, etc., by direction of the Department
Cities and Towns, Locality and Subject*

- Charlemont — Mohawk Trail over Boston and Maine Railroad; studies and estimates for abolition of grade crossing.
- Dennis — South County Road over Swan Pond River; examination and report on 40-foot span, through still plate girder.
- Gloucester — Essex Street over inlet; examination of 14-foot span, wood stringer.
- Harwich — Lower County Road over Herring River; examination, report and estimate on replacement of 55-foot pile and timber trestle.
- Huntington — Over Westfield River; examination and report on feasibility of removal and relocation of Pitcher Bridge.
- Lawrence — Osgood Street, Boston and Maine Railroad; report on foot passageway.
- Middleborough — Grove Street over New York, New Haven and Hartford Railroad; examination and report on two 96-foot and 48-foot spans, plate girders.
- Needham — Needham Street over Charles River at Newton line; examination and report on repairs to 3-span, granite arch.
- Northfield — Mount Hermon Bridge over Connecticut River; examination and report on protection of piers.
- Oxford — West Sutton Road over brook; examination of stone arch.
- Sheffield — Studies for bridge and relocation of highway over New York, New Haven and Hartford Railroad and Konkapot River, at Ashley Falls.
- Sterling — State highway over Boston and Maine and New York, New Haven and Hartford railroads; report on repairs to 86-foot span, steel pony truss, and 35.8-foot span, wood stringer.
- Worcester Turnpike — Brookline to Worcester; preliminary studies for separation of grades of cross streets.

*Bridge Plans Submitted and Examined during the Year under the provisions of
Chapter 85, General Laws, as amended by Chapter 313, Acts of 1923*

Cities and Towns, Location, Character of Work and Date of Approval

- Auburn — Rockland Road; reinforced concrete slabs over Stoneville Brook and over Flume; approved July 2, 1929.
- Beverly — Bridge Street over Bass River; 146-foot plate girder draw span and 129-foot pile and timber approach spans; approved August 27, 1929.
- Bernardston — Town road over Mill Brook; reinforced concrete beam; approved July 23, 1929.
- Dalton — Old Windsor Road over Branch of Housatonic River; 38.3-foot span, plate girder with rubble concrete abutments; approved October 8, 1929.

Leominster — Central Street over Monoosnock Brook; steel I beam and reinforced concrete extension to stone arch; approved August 13, 1929.

Millbury — Greenwood Street over Blackstone River, one 50-foot span, steel girder with reinforced concrete slab deck; and over Greenwood Street Brook, one 17-foot span steel girder with reinforced concrete deck; approved August 20, 1929.

Northampton — Water Street over Roberts Meadow Brook, one 30-foot span, reinforced concrete arch; Reservoir Road over Roberts Meadow Brook, one 20-foot span, reinforced concrete arch; Westhampton Road over Parsons Brook, steel stringer with jack arches and reinforced concrete floor; approved April 23, 1929.

Northbridge — Uxbridge Road over West River; one 30-foot span, stone arch; approved March 5, 1929.

Taunton — Spring Street over Mill River; two 23-foot spans, reinforced concrete beam and slab; approved July 30, 1929.

Weymouth — Repairs and alterations to Back River Bridge of three fixed and one draw span, with a total length of 248 feet; approved March 12, 1929.

Worcester — Millbury Street over Middle River; two 24-foot and one 25-foot spans, steel superstructure with reinforced concrete floor; approved April 30, 1929.

Legislative Resolves of 1927 and 1929. Examinations, Studies, Estimates and Reports on Bridges and Structures

Cities and Towns, Locality and Character of Work

Chapter 38, Resolves of 1927. Examination and report on all bridges on main through routes of travel. See Senate No. 10, 1929.

Revere — Chapter 23, Resolves of 1929. Examination, study and estimate for reconstruction of bridge at Point of Pines over Boston, Revere Beach and Lynn Railroad, 190-foot span.

Revere — Chapter 25, Resolves of 1929. Examination, study and estimate for reconstruction of Saugus River Bridge.

Revere — Chapter 44, Resolves of 1929. Approximate estimate for separation of grades of Broadway and Revere Beach Parkway.

BRIDGE OVER THE MERRIMACK RIVER BETWEEN NEWBURYPORT AND SALISBURY

This bridge was placed in charge of the Massachusetts Highway Commission and made a State highway by the provisions of chapter 716, Acts of 1912, which also provided that the expense of keeping the bridge in good repair for travel, of operating the draw and of maintaining the structure shall be paid by the Commonwealth.

The number of draw openings during the year ending Nov. 30, 1929, was 386. In 1928 the number of such openings was 365; in 1927 the number reached 200, and in 1926 amounted to 209.

The total expenditure during the year was \$5,144.53, including repairs to draw fender piers.

The total expenditure from 1912 to Nov. 30, 1929, inclusive, was \$143,311.60.

BRIDGE OVER TAUNTON RIVER BETWEEN FALL RIVER AND SOMERSET

This bridge was placed in charge of the Massachusetts Highway Commission and made a State highway by the provisions of chapter 717, Acts of 1912, which also provided that the expense of keeping the bridge in good repair for travel, and for operating the draw and maintaining the structure shall be paid by the Commonwealth.

The number of draw openings during the year ending Nov. 30, 1929, was 1,789. In 1928 the number of such openings was 1,982; in 1927 the number reached 2,043; and in 1926 amounted to 1,617.

The total expenditure during the year was \$12,285.01, including strengthening and rebuilding entire bridge floor.

The total expenditure from 1912 to Nov. 30, 1929, inclusive, was \$312,736.84.

CONSTRUCTION OF TOWN AND COUNTY WAYS

(Section 34, chapter 90, General Laws, as revised by section 1, chapter 112, Acts of 1921, and by chapter 288, Acts of 1925, and by section 6, chapter 316, Acts of 1928.)

During the year the Department has contracted for work to be done in the towns named in the following table, which also shows the type of road, the length contracted for, and the allotments or contributions by the State, towns and counties:

COUNTIES AND TOWNS	State	CONTRIBUTIONS Town	County	Type of Road	Length contracted for (Feet)
<i>Barnstable County</i>					
Bourne	\$7,050 00	\$6,000 00	\$7,050 00	Bituminous macadam	2,645
Brewster	15,000 00	7,500 00	7,500 00	Bituminous concrete	7,666
Dennis	20,000 00	10,000 00	10,000 00	Bituminous concrete	13,240
Harwich	8,000 00	5,000 00	5,000 00	Bituminous concrete	4,425
<i>Berkshire County</i>					
Alford	1,000 00	500 00	500 00	Gravel	800
Becket	1,000 00	1,000 00	1,000 00	Bridge and approaches	-
Becket	500 00	500 00	500 00	Gravel	500
Cheshire	3,000 00	2,700 00	2,700 00	Bridge and approaches	-
Cheshire	2,000 00	1,000 00	1,000 00	Gravel	1,700
Clarksburg	1,000 00	500 00	500 00	Gravel	7,000
Egremont	600 00	600 00	-	Gravel	550
Egremont	600 00	600 00	-	Gravel	550
Florida	2,500 00	2,500 00	-	Gravel	1,500
Great Barrington	6,000 00	6,000 00	-	Gravel	2,730
Hancock	1,000 00	500 00	1,000 00	Gravel	675
Monterey	4,000 00	1,000 00	4,000 00	Bituminous macadam	1,750
Mount Washington	1,500 00	500 00	1,000 00	Gravel	950
New Marlborough	1,500 00	1,500 00	1,500 00	Gravel	1,300
New Marlborough	3,000 00	2,000 00	1,000 00	Gravel	4,500
North Adams	37,000 00	37,000 00	-	Reinforced cement concrete and bituminous macadam	2,600
Otis	1,000 00	500 00	1,000 00	Gravel	550
Richmond	2,500 00	1,000 00	1,500 00	Gravel	1,550
Sandisfield	2,000 00	1,000 00	1,000 00	Gravel	1,200
Savoy	15,000 00	-	5,000 00	Hard pan	3,400
Sheffield	1,000 00	1,000 00	500 00	Gravel	750
Tyringham	2,000 00	1,000 00	1,000 00	Bituminous macadam	850
Washington	4,000 00	2,000 00	2,000 00	Gravel	2,200
West Stockbridge	6,000 00	3,000 00	3,000 00	Gravel	2,400
Williamstown	2,000 00	4,000 00	-	Gravel	1,717
Windsor	1,000 00	500 00	500 00	Gravel	629
Windsor	1,000 00	500 00	500 00	Gravel and hard pan	825
<i>Bristol County</i>					
Berkley	2,000 00	2,000 00	-	Repairs and oiling	29,700
Dighton	18,000 00	18,000 00	-	Bituminous macadam	4,900
Easton	2,500 00	2,500 00	-	Gravel	1,650
Freetown	1,000 00	1,500 00	-	Repairs and oiling	59,136
Freetown	6,000 00	2,000 00	6,000 00	Gravel	6,100
Norton	3,000 00	1,000 00	2,000 00	Gravel	1,800
Rehoboth	6,000 00	6,000 00	6,000 00	Waterbound macadam	3,450
Taunton	8,000 00	16,000 00	-	Bituminous macadam	2,934
Westport	2,000 00	2,000 00	2,000 00	Bituminous macadam	1,500
<i>Dukes County</i>					
West Tisbury	25,000 00	2,500 00	7,500 00	Bituminous concrete	8,100
<i>Essex County</i>					
Amesbury	13,000 00	19,500 00	6,500 00	Gravel	17,350
Andover	57,000 00	50,000 00	50,000 00	Bridge and approaches	-
Beverly	7,500 00	15,000 00	7,500 00	Bituminous macadam	5,550
Boxford	12,750 00	2,250 00	7,500 00	Bituminous macadam	2,650
Boxford	1,500 00	1,500 00	1,500 00	Gravel	2,800
Boxford	1,500 00	1,500 00	1,500 00	Gravel	2,200
Danvers	5,000 00	5,000 00	5,000 00	Bituminous macadam	2,100
Essex	49,000 00	8,600 00	28,400 00	Bituminous macadam	11,772
Georgetown	23,000 00	4,000 00	13,000 00	Bituminous macadam	5,850
Haverhill	9,000 00	18,000 00	9,000 00	Bituminous macadam	3,435
Lawrence	3,500 00	7,000 00	3,500 00	Reinforced concrete	1,700
Lynnfield	10,000 00	10,000 00	10,000 00	Bituminous macadam	5,100
Methuen	4,000 00	5,000 00	4,000 00	Bituminous macadam	1,600
Middleton	3,000 00	3,000 00	3,000 00	Gravel	3,600
Newbury	5,600 00	5,600 00	5,600 00	Bridge and approaches	-
Peabody	6,250 00	12,500 00	6,250 00	Bituminous macadam	3,650
Rowley	1,000 00	1,000 00	1,000 00	Gravel	900
Rowley	500 00	500 00	-	Oiling	11,000
Salem	15,000 00	35,000 00	10,000 00	Bituminous macadam and reinforced cement concrete	4,518
Salisbury	2,500 00	2,500 00	2,500 00	Bituminous macadam	1,627
Saugus	2,300 00	2,300 00	2,300 00	Bituminous macadam	1,500
West Newbury	1,000 00	1,000 00	1,000 00	Gravel	800

COUNTIES AND TOWNS

State

CONTRIBUTIONS
Town

County

Type of Road

Length con-
tracted for
(Feet)*Franklin County*

Ashfield	\$1,500 00	\$1,500 00	-	Gravel	1,000
Ashfield	1,500 00	1,500 00	-	Gravel	800
Ashfield	5,000 00	1,500 00	\$1,000 00	Gravel	2,200
Buckland	1,000 00	1,000 00	1,000 00	Bituminous macadam	862
Buckland	6,000 00	5,000 00	1,000 00	Bituminous macadam	3,400
Charlemont	2,000 00	1,000 00	1,000 00	Gravel	1,500
Colrain	2,000 00	1,000 00	1,000 00	Gravel	2,200
Conway	2,500 00	1,500 00	1,000 00	Gravel	2,030
Deerfield	4,000 00	2,000 00	2,000 00	Bituminous macadam	1,700
Erving	500 00	500 00	-	Grading and oiling	1,900
Gill	2,000 00	1,000 00	1,000 00	Gravel	1,500
Gill	3,800 00	-	-	Repairs and oiling	35,611
Greenfield	7,500 00	7,500 00	2,000 00	Bituminous macadam	4,630
Hawley	1,400 00	700 00	700 00	Gravel	1,000
Hawley	1,400 00	700 00	700 00	Gravel	1,050
Heath	2,000 00	1,000 00	1,000 00	Gravel	2,400
Leverett	1,000 00	500 00	500 00	Gravel	5,000
Leyden	2,000 00	1,000 00	1,000 00	Gravel	1,200
Montague	18,000 00	18,000 00	1,000 00	Bituminous macadam	11,100
New Salem	2,000 00	1,000 00	1,000 00	Gravel	2,200
Northfield	2,000 00	1,000 00	1,000 00	Bituminous macadam	1,300
Orange	1,000 00	2,000 00	1,000 00	Gravel	6,600
Orange	2,000 00	2,000 00	1,000 00	Gravel	2,500
Rowe	2,000 00	1,000 00	1,000 00	Gravel	1,600
Shelburne	2,000 00	2,000 00	1,000 00	Gravel	1,800
Shutesbury	2,000 00	1,000 00	1,000 00	Gravel	1,400
Sunderland	2,000 00	1,000 00	1,000 00	Gravel	1,400
Warwick	2,000 00	1,000 00	1,000 00	Gravel	1,500
Warwick	1,000 00	500 00	500 00	Culvert and approaches	-
Wendell	3,000 00	2,000 00	1,000 00	Gravel	2,100
Whately	160 00	160 00	-	Oiling	2,100

Hampden County

Agawam	12,000 00	24,000 00	12,000 00	Bituminous macadam	9,950
Blandford	12,500 00	2,500 00	12,500 00	Bituminous macadam	3,450
Blandford	2,000 00	1,000 00	2,000 00	Oiling and bituminous mac- adam	5,250
Brimfield	4,000 00	2,000 00	4,000 00	Gravel and tar	3,000
Chester	1,500 00	500 00	1,500 00	Gravel	1,108
Chester	2,500 00	500 00	2,500 00	Gravel	1,400
Chester	5,000 00	500 00	5,000 00	Gravel	2,950
Chester	1,500 00	-	1,500 00	Gravel	1,150
East Longmeadow	2,500 00	2,500 00	2,500 00	Gravel	3,510
Granville	4,000 00	2,000 00	4,000 00	Gravel	2,766
Hampden	5,600 00	2,800 00	5,600 00	Bituminous macadam	3,400
Holland	3,300 00	1,000 00	3,300 00	Gravel	2,200
Holyoke	27,000 00	27,000 00	27,000 00	Bituminous macadam	10,567
Ludlow	4,800 00	4,800 00	4,800 00	Bridge and approaches	-
Ludlow	2,500 00	2,500 00	2,500 00	Bridge and approaches	-
Ludlow	2,500 00	2,500 00	2,500 00	Gravel	2,422
Monson	11,000 00	10,000 00	11,000 00	Bridge and approaches	-
Palmer	-	9,000 00	-	-	-
Montgomery	1,000 00	300 00	1,000 00	Gravel	800
Palmer	5,000 00	5,000 00	5,000 00	Gravel	3,300
Russell	3,000 00	3,000 00	3,000 00	Gravel	2,646
Southwick	2,000 00	2,000 00	2,000 00	Bituminous macadam	1,350
Wales	1,000 00	500 00	1,000 00	Gravel	650
Westfield	4,000 00	5,000 00	4,000 00	Gravel	8,325
Westfield	27,000 00	27,000 00	27,000 00	Bridge and approaches	-
West Springfield	10,000 00	10,000 00	10,000 00	Bituminous macadam	4,476
Wilbraham	4,000 00	4,000 00	4,000 00	Bituminous macadam	2,770

Hampshire County

Belchertown	6,000 00	2,000 00	2,000 00	Bituminous macadam	4,000
Belchertown	800 00	-	500 00	Repairs and oiling	15,576
Chesterfield	2,000 00	1,000 00	1,000 00	Gravel	1,200
Chesterfield	1,000 00	1,000 00	1,000 00	Gravel	1,250
Cummington	1,000 00	1,000 00	1,000 00	Gravel	800
Easthampton	5,000 00	5,000 00	3,000 00	Bituminous macadam	1,700
Enfield	5,600 00	-	500 00	Repairs and oiling	11,616
Goshen	2,400 00	1,200 00	1,200 00	Gravel	2,198
Granby	4,000 00	2,000 00	4,000 00	Bituminous macadam	1,800
Granby	2,000 00	1,000 00	1,000 00	Bituminous macadam	900
Greenwich	1,000 00	500 00	500 00	Gravel	1,155
Hadley	27,000 00	8,000 00	8,000 00	Bituminous macadam	20,076
Huntington	750 00	750 00	-	Bridge repairs	-
Huntington	1,000 00	500 00	500 00	Gravel	550
Middlefield	1,000 00	-	500 00	Gravel	375
Middlefield	1,000 00	500 00	500 00	Gravel	700
Middlefield	1,000 00	500 00	500 00	Gravel	500
Northampton	5,000 00	5,000 00	3,000 00	Gravel	5,750
Pelham	1,000 00	500 00	500 00	Gravel	1,500
South Hadley	1,500 00	1,500 00	1,500 00	Bituminous macadam	1,050
Westhampton	1,500 00	750 00	750 00	Gravel	1,300
Worthington	3,000 00	1,500 00	1,500 00	Gravel	950

Middlesex County

Acton	1,500 00	1,500 00	1,500 00	Gravel	2,100
Acton	1,500 00	1,500 00	1,500 00	Gravel	1,425

COUNTIES AND TOWNS	State	CONTRIBUTIONS Town	County	Type of Road	Length con- tracted for (Feet)
<i>Middlesex County — Continued</i>					
Ashby	\$1,000 00	\$500 00	\$1,000 00	Repairs and oiling . . .	17,952
Ashland	2,000 00	2,000 00	2,000 00	Repairs and oiling . . .	15,312
Ashland	2,000 00	2,000 00	2,000 00	Bituminous macadam . . .	3,000
Bedford	2,000 00	2,000 00	2,000 00	Bituminous macadam . . .	890
Billerica	2,000 00	2,000 00	2,000 00	Gravel	1,450
Boxborough	1,000 00	500 00	1,000 00	Gravel	1,200
Boxborough	1,000 00	500 00	1,000 00	Gravel	1,280
Boxborough	750 00	750 00	750 00	Repairs and oiling . . .	28,512
Burlington	6,000 00	3,000 00	6,000 00	Bituminous macadam . . .	3,800
Burlington	2,000 00	2,000 00	1,000 00	Repairs and oiling . . .	40,128
Burlington	3,000 00	3,000 00	3,000 00	Gravel	2,454
Carlisle	2,000 00	1,000 00	2,000 00	Gravel	2,100
Carlisle	8,000 00	4,000 00	8,000 00	Gravel	6,261
Chelmsford	3,000 00	3,000 00	3,000 00	Bituminous macadam . . .	1,700
Chelmsford	1,000 00	1,000 00	1,000 00	Gravel	2,000
Chelmsford	2,500 00	2,500 00	2,500 00	Bridge and approaches . .	—
Concord	12,500 00	25,000 00	12,500 00	Bituminous macadam . . .	9,600
Concord	450 00	900 00	450 00	Bituminous macadam . . .	400
Dracut	1,000 00	1,000 00	1,000 00	Gravel	1,500
Dracut	3,000 00	3,000 00	3,000 00	Gravel	3,400
Dunstable	1,750 00	1,750 00	1,750 00	Repairs and oiling . . .	41,184
Dunstable	2,000 00	1,000 00	2,000 00	Gravel	2,550
Framingham	2,000 00	4,000 00	2,000 00	Bridge and approaches . .	—
Framingham	2,750 00	5,500 00	2,750 00	Bituminous macadam and bituminous concrete . . .	2,550
Groton	1,000 00	1,000 00	1,000 00	Repairs and oiling . . .	16,368
Groton	7,000 00	7,000 00	7,000 00	Bituminous macadam . . .	2,232
Holliston	1,500 00	1,500 00	1,500 00	Repairs and oiling . . .	39,600
Holliston	1,000 00	1,000 00	1,000 00	Bituminous macadam . . .	445
Holliston	3,500 00	3,500 00	3,500 00	Bituminous macadam . . .	1,500
Hopkinton	2,000 00	2,000 00	2,000 00	Repairs and oiling . . .	57,552
Hopkinton	4,000 00	2,000 00	4,000 00	Gravel and bituminous mac- adam	2,725
Hudson	15,000 00	15,000 00	15,000 00	Bituminous macadam . . .	7,446
Lexington	2,200 00	2,200 00	2,200 00	Bituminous macadam . . .	700
Lexington	13,000 00	13,000 00	13,000 00	Bituminous macadam . . .	4,750
Lincoln	1,000 00	1,000 00	1,000 00	Repairs and oiling . . .	36,960
Littleton	1,600 00	1,600 00	1,600 00	Repairs and oiling . . .	39,072
Littleton	2,000 00	1,000 00	2,000 00	Gravel	2,200
Littleton	1,000 00	1,000 00	1,000 00	Gravel	1,400
Lowell	1,500 00	3,000 00	1,500 00	Bituminous macadam . . .	800
Marlborough	8,000 00	8,000 00	8,000 00	Reinforced cement concrete	1,634
Marlborough	4,000 00	4,000 00	4,000 00	Bituminous macadam . . .	1,245
Maynard	2,600 00	2,600 00	2,600 00	Bituminous macadam . . .	450
Natick	3,500 00	3,500 00	3,500 00	Gravel	4,600
Newton	12,500 00	25,000 00	12,500 00	Bridge and approaches . .	—
North Reading	3,300 00	3,300 00	3,300 00	Bituminous macadam . . .	2,500
North Reading	1,700 00	1,700 00	1,700 00	Repairs and oiling . . .	44,880
Pepperell	4,000 00	4,000 00	4,000 00	Repairs and oiling . . .	32,450
Pepperell	18,000 00	18,000 00	18,000 00	Gravel	19,120
Sherborn	2,000 00	2,000 00	2,000 00	Repairs and oiling . . .	66,528
Sherborn	10,000 00	5,000 00	10,000 00	Bituminous macadam . . .	4,500
Stoneham	12,000 00	12,000 00	12,000 00	Bituminous macadam . . .	4,533
Stoneham	10,000 00	10,000 00	10,000 00	Bituminous macadam . . .	2,550
Stow	2,500 00	2,500 00	2,500 00	Repairs and oiling . . .	36,960
Sudbury	3,650 00	4,000 00	4,000 00	Repairs and oiling . . .	79,728
Sudbury	1,000 00	1,000 00	1,000 00	Gravel	2,000
Tewksbury	1,000 00	1,000 00	1,000 00	Repairs and oiling . . .	12,144
Tewksbury	1,000 00	1,000 00	1,000 00	Repairs and oiling and bitu- minous macadam . . .	3,600
Townsend	9,250 00	3,000 00	9,250 00	Gravel	8,493
Townsend	1,000 00	1,000 00	1,000 00	Repairs and oiling . . .	22,440
Tyngsborough	1,500 00	1,500 00	1,500 00	Repairs and oiling . . .	41,184
Tyngsborough	4,000 00	2,000 00	4,000 00	Gravel	4,700
Wakefield	800 00	800 00	800 00	Bituminous macadam . . .	650
Wakefield	6,000 00	6,000 00	6,000 00	Bituminous macadam . . .	2,479
Watertown	20,000 00	20,000 00	20,000 00	Reinforced cement concrete	4,450
Wayland	2,000 00	4,000 00	2,000 00	Repairs and oiling . . .	42,240
Wayland	6,000 00	6,000 00	6,000 00	Bituminous macadam . . .	3,243
Westford	4,000 00	4,000 00	4,000 00	Gravel	4,700
Westford	2,500 00	2,500 00	2,500 00	Gravel	3,600
Westford	5,000 00	5,000 00	5,000 00	Repairs and oiling . . .	70,224
Westford	4,000 00	4,000 00	4,000 00	Gravel	4,065
Weston	12,000 00	12,000 00	12,000 00	Bituminous macadam . . .	2,855
Wilmington	750 00	750 00	750 00	Repairs and oiling . . .	19,536
Wilmington	4,000 00	2,000 00	4,000 00	Bituminous macadam . . .	1,500
Winchester	12,000 00	12,000 00	12,000 00	Bituminous macadam . . .	4,900
Woburn	3,500 00	7,000 00	3,500 00	Bituminous macadam . . .	2,000
<i>Nantucket County</i>					
Nantucket	10,000 00	10,000 00	—	Bituminous concrete . . .	4,754
<i>Norfolk County</i>					
Avon	9,000 00	9,000 00	9,000 00	Bituminous macadam . . .	3,699
Bellingham	2,650 00	1,325 00	1,325 00	Repairs and oiling . . .	23,700
Bellingham	10,000 00	5,000 00	5,000 00	Gravel	4,930
Canton	6,000 00	6,000 00	6,000 00	Bituminous macadam . . .	800

COUNTIES AND TOWNS

State

CONTRIBUTIONS
Town

County

Type of Road

Length con-
tracted for
(Feet)*Norfolk County — Continued*

Canton	\$300 00	\$300 00	\$300 00	Gravel	348
Canton	10,000 00	20,000 00	10,000 00	Bituminous macadam	4,285
Foxborough	9,999 00	9,999 00	9,999 00	Bituminous macadam	5,100
Franklin	6,000 00	6,000 00	6,000 00	Gravel	6,150
Holbrook	14,000 00	14,000 00	14,000 00	Bituminous macadam	5,220
Medfield	10,000 00	5,000 00	5,000 00	Bituminous macadam	3,300
Medway	24,150 00	10,950 00	11,700 00	Bridge and approaches	—
Medway	1,000 00	1,000 00	1,000 00	Gravel	2,400
Millis	12,000 00	12,000 00	12,000 00	Bituminous macadam	5,650
Needham	7,500 00	15,000 00	7,500 00	Bituminous macadam	3,900
Norfolk	6,000 00	2,000 00	4,000 00	Gravel	4,900
Norfolk	1,000 00	1,000 00	1,000 00	Repairs and oiling	21,648
Randolph	10,000 00	7,500 00	7,500 00	Gravel	5,202
Sharon	800 00	800 00	800 00	Gravel	750
Sharon	5,000 00	5,000 00	5,000 00	Gravel	3,800
Wellesley	12,500 00	25,000 00	12,500 00	Bridge and approaches	—
Westwood	3,000 00	3,000 00	3,000 00	Bituminous macadam	2,450

Plymouth County

Carver	4,000 00	2,000 00	—	Bituminous concrete	3,417
Duxbury	9,100 00	8,000 00	6,000 00	Bituminous concrete	5,935
East Bridgewater	23,000 00	46,000 00	—	Bridge and approaches	—
Hanson	6,000 00	3,000 00	3,000 00	Bituminous concrete	2,650
Hingham	17,000 00	17,000 00	17,000 00	Bituminous macadam	7,703
Kingston	11,500 00	7,500 00	11,000 00	Bituminous macadam	6,200
Lakeville	10,000 00	5,000 00	5,000 00	Bituminous macadam	3,910
Lakeville	1,000 00	2,000 00	—	Gravel	2,900
Pembroke	25,000 00	10,000 00	20,000 00	Bituminous macadam	10,858
Plympton	3,500 00	1,000 00	2,500 00	Gravel	5,600

Worcester County

Athol	9,500 00	9,500 00	9,500 00	Bituminous macadam	3,224
Athol	2,100 00	800 00	800 00	Bituminous macadam	571
Berlin	5,500 00	3,500 00	5,500 00	Gravel	3,100
Berlin	2,000 00	2,000 00	2,000 00	Repairs and oiling	36,432
Blackstone	2,000 00	2,000 00	2,000 00	Bituminous macadam	1,400
Bolton	25,450 00	4,100 00	16,450 00	Bituminous macadam	6,194
Boylston	32,750 00	1,500 00	24,750 00	Bituminous macadam	8,960
Brookfield	2,000 00	1,000 00	2,000 00	Gravel	2,800
Clinton	10,000 00	20,000 00	10,000 00	Bituminous macadam	6,750
Dana	2,500 00	1,000 00	2,500 00	Gravel	1,600
Dudley	800 00	800 00	—	Repairs and oiling	13,522
Gardner	12,500 00	25,000 00	12,500 00	Bridge and approaches	—
Gardner	5,500 00	11,000 00	5,500 00	Bituminous macadam	3,550
Hardwick	3,000 00	3,000 00	3,000 00	Bituminous macadam	2,494
Holden	5,000 00	5,000 00	5,000 00	Bituminous macadam	2,525
Hubbardston	1,000 00	500 00	1,000 00	Repairs and oiling	42,240
Hubbardston	2,000 00	1,000 00	2,000 00	Gravel	3,200
Lancaster	10,000 00	10,000 00	10,000 00	Bituminous macadam	5,350
Leicester	4,500 00	5,000 00	4,500 00	Gravel	2,900
Lunenburg	500 00	500 00	500 00	Repairs and oiling	6,525
Lunenburg	500 00	500 00	500 00	Repairs and oiling	3,696
Lunenburg	9,500 00	5,500 00	9,500 00	Gravel	8,100
Mendon	600 00	300 00	600 00	Repairs and oiling	16,484
Mendon	2,160 00	1,000 00	2,160 00	Gravel	2,000
Milford	10,000 00	10,000 00	10,000 00	Bituminous macadam	4,297
Millville	3,000 00	3,000 00	3,000 00	Gravel	2,300
New Braintree	2,000 00	1,000 00	2,000 00	Gravel	1,675
New Braintree	400 00	400 00	400 00	Gravel	4,846
Oakham	3,000 00	1,900 00	3,000 00	Gravel	2,500
Oxford	20,148 52	25,000 00	25,000 00	Bridge and approaches	—
Paxton	500 00	500 00	500 00	Gravel	600
Paxton	1,200 00	600 00	1,200 00	Bridge	—
Petersham	5,000 00	3,000 00	5,000 00	Bridge and approaches	1,500
Phillipston	9,000 00	2,000 00	9,000 00	Gravel	3,555
Princeton	900 00	400 00	900 00	Repairs and oiling	22,704
Princeton	4,000 00	2,000 00	4,000 00	Gravel	2,350
Princeton	400 00	—	110 00	Repairs and oiling	4,300
Royalston	6,000 00	3,000 00	6,000 00	Gravel	3,100
Rutland	4,000 00	2,000 00	4,000 00	Gravel	24,575
Southborough	3,100 00	3,100 00	3,100 00	Bituminous macadam	2,100
Spencer	5,000 00	5,000 00	5,000 00	Gravel and tar	4,200
Sterling	1,550 00	500 00	1,550 00	Repairs and oiling	25,872
Sterling	6,000 00	3,000 00	6,000 00	Bridge and approaches	—
Sutton	6,000 00	3,000 00	6,000 00	Bituminous macadam	5,600
Sutton	250 00	—	250 00	Repairs and oiling	1,300
Templeton	2,000 00	2,000 00	2,000 00	Repairs and oiling	14,256
Warren	3,300 00	3,300 00	3,300 00	Gravel	3,000
West Boylston	2,500 00	2,500 00	2,500 00	Gravel and tar	1,947
West Brookfield	2,000 00	1,000 00	2,000 00	Gravel	1,300
Westborough	10,000 00	10,000 00	10,000 00	Bituminous macadam	5,134
Westborough	10,000 00	10,000 00	10,000 00	Bituminous macadam	3,500
Westminster	1,800 00	—	1,800 00	Repairs and oiling	16,896
Westminster	2,000 00	1,000 00	2,000 00	Gravel	1,550
Westminster	250 00	—	610 00	Repairs and oiling	5,380

EXPENDITURES FOR CONSTRUCTION OF TOWN AND COUNTY WAYS

The expenditures during the year in various Counties were: —

Barnstable, \$71,149.09	Hampshire, \$108,996.53
Berkshire, \$137,077.63	Middlesex, \$398,490.61
Bristol, \$52,223.76	Nantucket, \$12,279.78
Dukes, \$23,770.83	Norfolk, \$187,311.39
Essex, \$268,137.15	Plymouth, \$148,767.25
Franklin, \$124,257.94	Worcester, \$343,568.20
Hampden, \$173,055.75	Total, \$2,049,085.91

Details of the foregoing expenditures follow: —

Barnstable County. — Bourne, \$8,524.39; Brewster, \$18,466.00; Dennis, \$31,887.02; Harwich, \$12,271.68.

Berkshire County. — Alford, \$1,227.98; Becket, \$5,912.36; Cheshire, \$5,271.21; Clarksburg, \$1,227.60; Egremont, \$1,473.57; Florida, \$3,069.76; Great Barrington, \$7,330.53; Hancock, \$7,055.14; Hinsdale, \$184.20; Monterey, \$5,454.79; Mt. Washington, \$1,841.97; New Marlboro, \$5,076.80; No. Adams, \$27,525.49; Otis, \$7,343.10; Peru, \$11,062.29; Richmond, \$3,068.99; Sandisfield, \$2,455.96; Savoy, \$19,584.25; Sheffield, \$1,227.98; Tyringham, \$2,455.86; Washington, \$4,911.91; West Stockbridge, \$7,367.87; Williamstown, \$2,492.06; Windsor, \$2,455.96.

Bristol County. — Berkley, \$3,071.01; Dartmouth, \$1,976.05; Dighton, \$20,500.67; Easton, \$2,192.41; Freetown, \$8,741.50; Norton, \$3,683.93; Rehoboth, \$7,229.38; Taunton, \$2,372.85; Westport, \$2,455.96.

Dukes County. — West Tisbury, \$23,770.83.

Essex County. — Amesbury, \$11,921.10; Andover, \$51,660.59; Beverly, \$12,122.21; Boxford, \$14,915.87; Danvers, \$5,093.54; Essex, \$49,969.42; Georgetown, \$33,401.30; Hamilton, \$1,187.53; Haverhill, \$9,644.01; Lawrence, \$3,899.11; Lynnfield, \$18,661.50; Methuen, \$6,802.86; Middleton, \$3,683.93; Newbury, \$6,181.86; Peabody, \$10,039.34; Rowley, \$1,841.97; Salem, \$18,417.35; Salisbury, \$2,397.76; Saugus, \$2,957.29; West Newbury, \$3,338.61.

Franklin County. — Ashfield, \$20,414.55; Buckland, \$8,595.85; Charlemont, \$2,455.96; Colrain, \$4,519.48; Conway, \$3,246.33; Deerfield, \$4,911.91; Erving, \$613.99; Gill, \$7,122.27; Greenfield, \$8,441.80; Hawley, \$3,438.34; Heath, \$2,455.96; Leverett, \$1,227.98; Leyden, \$2,455.96; Montague, \$18,398.15; New Salem, \$2,455.96; Northfield, \$2,455.96; Orange, \$6,199.29; Rowe, \$2,455.96; Shelburne, \$2,455.96; Shutesbury, \$2,455.96; Sunderland, \$2,445.96; Warwick, \$11,144.89; Wendell, \$3,683.93; Whately, \$195.54.

Hampden County. — Agawam, \$8,938.21; Blandford, \$16,773.43; Brimfield, \$5,353.37; Chester, \$12,832.94; East Longmeadow, \$3,067.43; Granville, \$4,911.91; Hampden, \$6,876.68; Holland, \$3,522.99; Holyoke, \$15,603.83; Ludlow, \$10,218.45; Monson, \$9,207.69; Montgomery, \$1,227.95; Palmer, \$19,056.92; Russell, \$3,683.93; Southwick, \$3,069.94; Tolland, \$3,687.02; Wales, \$1,227.98; West Springfield, \$13,023.48; Westfield, \$25,901.00; Wilbraham, \$4,870.60.

Hampshire County. — Belchertown, \$8,349.94; Chesterfield, \$5,277.13; Cummington, \$1,906.55; Easthampton, \$4,898.18; Enfield, \$7,360.34; Goshen, \$5,391.36; Granby, \$7,367.87; Greenwich, \$1,227.98; Hadley, \$35,580.77; Huntington, \$1,764.12; Middlefield, \$5,076.96; Northampton, \$6,139.89; Pelham, \$1,227.97; Plainfield, \$7,650.66; So. Hadley, \$1,820.82; Westhampton, \$1,841.97; Williamsburg, \$207.00; Worthington, \$5,907.02.

Middlesex County. — Acton, \$2,789.71; Ashby, \$1,227.98; Ashland, \$4,905.35; Bedford, \$2,455.96; Billerica, \$8,434.47; Boxborough, \$3,559.86; Burlington, \$12,934.33; Carlisle, \$13,747.98; Chelmsford, \$7,980.31; Concord, \$13,171.55; Dracut, \$4,823.80; Dunstable, \$4,604.92; Framingham, \$5,831.67; Groton, \$8,850.27; Holliston, \$5,964.17; Hopkinton, \$7,367.87; Hudson, \$18,038.58; Lexington, \$17,175.87; Lincoln, \$1,227.98; Littleton, \$5,648.70; Lowell, \$11,114.45; Malden, \$952.97; Marlborough, \$13,857.10; Maynard, \$7,496.12; Medford, \$925.71; Natick, \$4,268.73; Newton, \$14,567.43; No. Reading, \$6,047.79; Pepperell, \$19,444.16; Sherborn, \$14,735.74; Stoneham, \$21,853.52; Stow, \$3,069.94; Sudbury, \$5,710.10; Tewksbury, \$2,455.96; Townsend, \$8,950.60; Tyngsborough,

\$6,753.88; Wakefield, \$6,446.70; Waltham, \$3,708.15; Watertown, \$21,279.63; Wayland, \$8,603.32; Westford, \$18,268.47; Weston, \$13,940.95; Wilmington, \$16,163.30; Winchester, \$13,507.76; Woburn, \$3,626.80.

Nantucket County.—Nantucket, \$12,279.78.

Norfolk County.—Avon, \$8,090.30; Bellingham, \$12,476.65; Canton, \$21,-220.99; Dedham, \$23,306.90; Foxborough, \$11,245.03; Franklin, \$1,549.86; Holbrook, \$12,558.47; Medfield, \$11,615.92; Medway, \$24,308.79; Millis, \$12,-665.20; Milton, \$1,097.22; Needham, \$5,419.58; Norfolk, \$4,282.57; Randolph, \$11,146.66; Sharon, \$8,159.99; Wellesley, \$14,567.43; Westwood, \$3,599.83.

Plymouth County.—Carver, \$4,780.52; Duxbury, \$12,851.18; East Bridgewater, \$28,243.50; Hanson, \$10,050.52; Hingham, \$11,232.48; Kingston, \$17,-437.08; Lakeville, \$12,603.87; Mattapoisett, \$3,460.05; Pembroke, \$36,873.57; Plympton, \$4,297.54; Rochester, \$6,936.94.

Worcester County.—Athol, \$10,188.57; Berlin, \$12,803.34; Blackstone, \$2,-790.32; Bolton, \$31,765.44; Boylston, \$33,417.60; Brookfield, \$2,455.96; Clinton, \$9,781.68; Dana, \$3,069.54; Dudley, \$805.71; Gardner, \$18,729.90; Hardwick, \$5,054.73; Holden, \$6,205.99; Hubbardston, \$3,683.58; Lancaster, \$12,427.10; Leicester, \$3,966.12; Lunenburg, \$9,550.40; Mendon, \$2,571.88; Milford, \$9,-402.26; Millville, \$4,851.48; New Braintree, \$2,392.95; Oakham, \$2,719.45; Oxford, \$21,630.97; Paxton, \$2,087.56; Petersham, \$6,162.78; Phillipston, \$9,-237.13; Princeton, \$13,058.32; Royalston, \$7,003.61; Rutland, \$4,911.91; Southborough, \$3,852.79; Spencer, \$5,812.28; Sterling, \$7,343.82; Sutton, \$20,530.13; Templeton, \$2,455.96; Upton, \$8,756.89; Warren, \$3,415.28; West Boylston, \$3,276.05; West Brookfield, \$1,781.88; Westborough, \$13,443.38; Westminster, \$20,173.46.

REPAIR AND IMPROVEMENT OF PUBLIC WAYS, EXCLUSIVE OF STATE HIGHWAYS, IN CERTAIN TOWNS

(Sections 26 to 29 and 31 of chapter 81, General Laws, as amended with reference to section 26 by section 1 of chapter 120, Acts of 1922, and by chapter 315, Acts of 1926.)

During the year the Department contracted for work to be done in the towns named in the following table, which also shows the road mileage in the towns and the allotments or contributions by the State and towns:—

Counties and Towns	Miles of Road	Allotments	
		State	Town
<i>Barnstable County:</i>			
Brewster	40	\$4,000 00	\$4,000 00
Dennis	80	8,000 00	8,000 00
Eastham	41	4,100 00	3,075 00
Mashpee	27	2,700 00	2,025 00
Sandwich	67	6,700 00	5,025 00
Truro	27	2,700 00	2,025 00
Wellfleet	35	3,500 00	3,500 00
<i>Berkshire County:</i>			
Alford	20	2,000 00	800 00
Becket	58	5,800 00	2,320 00
Cheshire	42	4,200 00	4,200 00
Egremont	31	3,100 00	2,325 00
Florida	42	4,200 00	3,150 00
Hancock	30	3,000 00	1,500 00
Hinsdale	35	3,500 00	2,625 00
Lanesborough	39	3,900 00	2,925 00
Monterey	53	5,300 00	2,120 00
Mount Washington	20	2,000 00	500 00
New Ashford	9	900 00	360 00
New Marlborough	85	8,500 00	3,400 00
Otis	48	4,800 00	1,200 00
Peru	37	3,700 00	555 00

Counties and Towns	Miles of Road	Allotments	
		State	Town
<i>Berkshire County — Con.</i>			
Richmond	34	\$3,400 00	\$1,700 00
Sandisfield	79	7,900 00	1,185 00
Savoy	56	5,600 00	840 00
Sheffield	77	7,700 00	3,850 00
Tyringham	25	2,500 00	1,250 00
Washington	51	5,100 00	765 00
West Stockbridge	36	3,600 00	2,700 00
Windsor	66	6,600 00	990 00
<i>Bristol County:</i>			
Berkley	42	4,200 00	2,100 00
Freetown	47	4,700 00	4,700 00
Norton	57	5,700 00	7,125 00
Raynham	45	4,500 00	4,500 00
Rehoboth	109	10,900 00	5,450 00
<i>Dukes County:</i>			
Chilmark	14	1,400 00	1,400 00
West Tisbury	12	1,200 00	1,800 00
<i>Essex County:</i>			
Boxford	52	5,200 00	2,600 00
Essex	21	2,100 00	3,150 00
Georgetown	34	3,400 00	4,250 00
Groveland	30	3,000 00	4,500 00
Merrimac	31	3,100 00	4,650 00
Middleton	30	3,000 00	3,750 00
Newbury	36	3,600 00	5,400 00
Rowley	31	3,100 00	3,875 00
Topsfield	38	3,800 00	5,700 00
West Newbury	37	3,700 00	2,775 00
<i>Franklin County:</i>			
Ashfield	82	8,200 00	3,280 00
Bernardston	41	4,100 00	2,050 00
Buckland	45	4,500 00	6,750 00
Charlemont	50	5,000 00	3,750 00
Colrain	84	8,400 00	4,200 00
Conway	76	7,600 00	1,900 00
Gill	36	3,600 00	2,700 00
Hawley	49	4,900 00	735 00
Heath	54	5,400 00	810 00
Leverett	38	3,800 00	1,520 00
Leyden	41	4,100 00	615 00
Monroe	18	1,800 00	2,700 00
Northfield	68	6,800 00	5,100 00
New Salem	64	6,400 00	1,600 00
Rowe	41	4,100 00	2,050 00
Shelburne	48	4,800 00	6,000 00
Shutesbury	40	4,000 00	1,000 00
Sunderland	34	3,400 00	3,400 00
Warwick	55	5,500 00	1,375 00
Wendell	48	4,800 00	2,400 00
<i>Hampden County:</i>			
Blandford	83	8,300 00	2,075 00
Brimfield	60	6,000 00	3,000 00
Chester	66	6,600 00	4,950 00
Granville	73	7,300 00	1,825 00
Hampden	34	3,400 00	1,700 00
Holland	30	3,000 00	450 00
Montgomery	27	2,700 00	675 00

Counties and Towns	Miles of Road	Allotments	
		State	Town
<i>Hampden County — Con.</i>			
Southwick	50	\$5,000 00	\$3,750 00
Tolland	41	3,050 00	615 00
Wales	25	2,500 00	1,250 00
Wilbraham	43	4,300 00	6,450 00
<i>Hampshire County:</i>			
Belchertown	115	11,500 00	4,600 00
Chesterfield	59	5,900 00	885 00
Cummington	49	4,900 00	1,225 00
Enfield	37	3,700 00	1,480 00
Goshen	28	2,800 00	1,120 00
Hadley	58	5,800 00	7,250 00
Granby	48	4,800 00	2,400 00
Greenwich	39	3,900 00	975 00
Huntington	39	3,900 00	3,900 00
Hatfield	47	4,700 00	7,050 00
Middlefield	38	3,800 00	570 00
Pelham	40	4,000 00	1,600 00
Plainfield	49	4,900 00	735 00
Prescott	39	3,900 00	585 00
Southampton	56	5,600 00	2,240 00
Westhampton	50	5,000 00	750 00
Williamsburg	43	4,300 00	4,300 00
Worthington	73	7,300 00	1,095 00
<i>Middlesex County:</i>			
Acton	58	5,800 00	7,250 00
Ashby	57	5,700 00	2,850 00
Ashland	38	3,800 00	5,700 00
Bedford	36	3,600 00	5,400 00
Boxborough	23	2,300 00	920 00
Burlington	32	3,200 00	4,800 00
Carlisle	43	4,300 00	1,720 00
Dunstable	36	3,600 00	900 00
Holliston	50	5,000 00	7,500 00
Hopkinton	66	6,600 00	6,600 00
Lincoln	40	4,000 00	6,000 00
Littleton	42	4,200 00	5,250 00
North Reading	29	2,900 00	4,350 00
Pepperell	68	6,800 00	8,500 00
Sherborn	42	4,200 00	4,200 00
Shirley	46	4,600 00	5,750 00
Stow	45	4,500 00	3,375 00
Sudbury	61	6,100 00	6,100 00
Tewksbury	55	5,500 00	8,250 00
Townsend	70	7,000 00	5,250 00
Tyngsborough	41	4,100 00	3,075 00
<i>Norfolk County:</i>			
Bellingham	42	4,200 00	6,300 00
Medfield	40	4,000 00	6,000 00
Medway	44	4,400 00	6,600 00
Millis	38	3,800 00	5,700 00
Norfolk	40	4,000 00	4,000 00
Plainville	34	3,400 00	4,250 00
Wrentham	46	4,600 00	6,900 00
<i>Plymouth County:</i>			
Carver	67	6,700 00	6,700 00
Halifax	33	3,300 00	3,300 00
Hanson	36	3,600 00	5,400 00

Counties and Towns	Miles of Road	Allotments State Town	
<i>Plymouth County — Con.</i>			
Lakeville	45	\$4,500 00	\$3,375 00
Norwell	47	4,700 00	4,700 00
Pembroke	47	4,700 00	5,875 00
Plympton	30	3,000 00	1,500 00
Rochester	49	4,900 00	3,675 00
West Bridgewater	39	3,900 00	5,850 00
<i>Worcester County:</i>			
Ashburnham	77	7,700 00	5,775 00
Berlin	39	3,900 00	2,925 00
Bolton	53	5,300 00	2,650 00
Boylston	40	4,000 00	2,000 00
Brookfield	36	3,600 00	3,600 00
Charlton	107	10,700 00	5,350 00
Dana	43	4,300 00	1,720 00
Douglas	70	7,000 00	5,250 00
East Brookfield	19	1,900 00	2,375 00
Harvard	56	5,600 00	5,600 00
Hardwick	86	8,600 00	8,600 00
Holden	76	7,600 00	9,500 00
Hubbardston	75	7,500 00	1,875 00
Lancaster	59	5,900 00	7,375 00
Lunenburg	66	6,600 00	4,950 00
Mendon	36	3,600 00	2,700 00
New Braintree	49	4,900 00	1,225 00
North Brookfield	69	6,900 00	6,900 00
Northborough	47	4,700 00	4,700 00
Oakham	45	4,500 00	1,125 00
Oxford	63	6,300 00	7,875 00
Paxton	29	2,900 00	2,175 00
Petersham	71	7,100 00	5,325 00
Phillipston	41	4,100 00	1,025 00
Princeton	72	7,200 00	2,880 00
Royalston	68	6,800 00	2,720 00
Rutland	68	6,800 00	3,400 00
Southborough	48	4,800 00	7,200 00
Sterling	72	7,200 00	5,400 00
Sturbridge	74	7,400 00	2,960 00
Sutton	84	8,400 00	4,200 00
Templeton	64	6,400 00	8,000 00
Upton	60	6,000 00	4,500 00
West Boylston	35	3,500 00	4,375 00
West Brookfield	53	5,300 00	3,975 00
Westminster	77	7,700 00	3,850 00

EXPENDITURES FOR REPAIR AND IMPROVEMENT OF PUBLIC WAYS

The expenditures during the year in various counties were: —

Barnstable, \$33,992.20	Hampden, \$63,247.62
Berkshire, \$129,039.92	Hampshire, \$101,376.38
Bristol, \$32,941.13	Middlesex, \$103,050.88
Dukes, \$2,578.97	Norfolk, \$30,740.17
Essex, \$37,201.52	Plymouth, \$43,106.94
Franklin, \$108,099.31	Worcester, \$233,548.13
	Total, \$918,923.17

Details of the foregoing expenditures follow: —

Barnstable County. — Brewster, \$4,501.95; Dennis, \$8,290.19; Eastham, \$4,-
259.82; Harwich, \$329.41; Mashpee, \$2,942.61; Sandwich, \$7,576.41; Truro, \$2,-
741.96; Wellfleet, \$3,184.31; Yarmouth, \$165.54.

Berkshire County. — Alford, \$2,196.07; Becket, \$8,338.92; Cheshire, \$5,122.73; Egremont, \$4,538.78; Florida, \$8,839.94; Hancock, \$2,052.95; Hinsdale, \$4,311.40; Lanesborough, \$5,007.19; Monterey, \$6,799.70; Mount Washington, \$2,676.13; New Ashford, \$964.72; New Marlborough, \$10,434.84; Otis, \$6,987.95; Peru, \$4,922.01; Richmond, \$3,922.88; Sandisfield, \$8,674.51; Savoy, \$6,129.17; Sheffield, \$14,902.69; Tyringham, \$2,924.99; Washington, \$6,401.13; West Stockbridge, \$4,741.66; Windsor, \$8,149.56.

Bristol County. — Berkley, \$4,611.76; Freetown, \$5,160.78; Norton, \$6,258.81; Raynham, \$4,941.17; Rehoboth, \$11,968.61.

Dukes County. — Chilmark, \$1,480.94; West Tisbury, \$1,098.03.

Essex County. — Boxford, \$5,709.80; Essex, \$2,239.99; Georgetown, \$3,733.33; Groveland, \$3,294.12; Merrimac, \$3,403.91; Middleton, \$3,294.12; Newbury, \$3,887.05; Rowley, \$3,403.91; Topsfield, \$4,172.55; West Newbury, \$4,062.74.

Franklin County. — Ashfield, \$9,525.48; Bernardston, \$4,501.96; Buckland, \$4,941.17; Charlemont, \$5,709.80; Colrain, \$8,894.11; Conway, \$7,025.05; Gill, \$3,074.51; Hawley, \$5,325.49; Heath, \$5,325.49; Leverett, \$4,172.55; Leyden, \$4,501.96; Monroe, \$1,976.47; New Salem, \$7,027.38; Northfield, \$6,862.74; Rowe, \$4,447.05; Shelburne, \$5,599.99; Shutesbury, \$4,392.16; Sunderland, \$3,541.06; Warwick, \$6,039.21; Wendell, \$5,215.68.

Hampden County. — Blandford, \$11,506.35; Brimfield, \$6,527.39; Chester, \$10,397.47; Granville, \$8,043.13; Hampden, \$3,733.33; Holland, \$3,242.03; Montgomery, \$2,986.91; Southwick, \$5,517.64; Tolland, \$3,820.96; Wales, \$2,750.85; Wilbraham, \$4,721.56.

Hampshire County. — Belchertown, \$12,352.93; Chesterfield, \$6,588.23; Cummington, \$5,407.83; Enfield, \$3,870.59; Goshen, \$3,129.41; Granby, \$5,270.58; Greenwich, \$4,282.35; Hadley, \$6,286.27; Hatfield, \$5,023.53; Huntington, \$5,073.29; Middlefield, \$4,835.34; Pelham, \$4,392.16; Plainfield, \$5,380.39; Prescott, \$4,117.64; Southampton, \$6,148.80; Westhampton, \$5,215.68; Williamsburg, \$4,776.23; Worthington, \$9,225.13.

Middlesex County. — Acton, \$6,368.62; Ashby, \$6,258.81; Ashland, \$4,172.55; Bedford, \$3,952.94; Boxborough, \$1,592.15; Burlington, \$3,513.72; Carlisle, \$4,721.56; Dunstable, \$3,952.94; Holliston, \$5,490.19; Hopkinton, \$7,247.05; Lincoln, \$4,392.15; Littleton, \$4,611.76; No. Reading, \$3,184.32; Pepperell, \$5,929.41; Sherborn, \$4,611.76; Shirley, \$5,050.98; Stow, \$4,941.17; Sudbury, \$5,490.19; Tewksbury, \$6,039.21; Townsend, \$7,686.27; Tyngsborough, \$3,843.13.

Norfolk County. — Bellingham, \$4,611.76; Medfield, \$4,392.16; Medway, \$4,387.24; Millis, \$4,172.55; Norfolk, \$4,392.16; Plainville, \$3,733.33; Wrentham, \$5,050.97.

Plymouth County. — Carver, \$7,981.70; Halifax, \$3,593.63; Hanson, \$4,188.21; Lakeville, \$4,719.27; Norwell, \$4,174.47; Pembroke, \$5,418.46; Plympton, \$3,257.52; Rochester, \$5,353.32; West Bridgewater, \$4,483.36.

Worcester County. — Ashburnham, \$8,454.90; Berlin, \$3,680.91; Bolton, \$5,819.61; Boylston, \$4,392.16; Brookfield, \$3,339.79; Charlton, \$12,314.94; Dana, \$4,940.34; Douglas, \$7,686.26; East Brookfield, \$2,034.68; Hardwick, \$9,443.12; Harvard, \$6,149.01; Holden, \$7,994.24; Hubbardston, \$8,235.29; Lancaster, \$6,478.42; Lunenburg, \$7,247.06; Mendon, \$3,507.18; New Braintree, \$5,380.39; No. Brookfield, \$8,235.78; Northboro, \$5,160.78; Oakham, \$4,941.17; Oxford, \$6,917.64; Paxton, \$3,318.38; Petersham, \$7,790.80; Phillipston, \$4,501.96; Princeton, \$7,905.88; Royalston, \$7,466.66; Rutland, \$7,879.62; Southboro, \$5,270.58; Sterling, \$7,905.87; Sturbridge, \$8,374.23; Sutton, \$9,223.53; Templeton, \$6,250.55; Upton, \$6,701.84; West Boylston, \$4,002.36; West Brookfield, \$5,996.50; Westminster, \$8,605.70.

CONTRACTS FOR THE CONSTRUCTION OF STATE HIGHWAYS IN ANTICIPATION OF AN APPROPRIATION

In November, 1929, preparations were made for advertising contracts under the provisions of section 27, chapter 29, General Laws, as amended by chapter 387, Acts of 1923, for work to be done in various localities, preliminary to the making of contracts involving the expenditure by the Commonwealth of not exceeding \$1,633,750.00, this amount being twenty-five per cent of the appropria-

tion of \$6,535,000.00 for the fiscal year ending Nov. 30, 1928. The making of these contracts as aforesaid was approved by the Governor and Council Nov. 6, 1929.

REGULATION OF TRAFFIC ON HIGHWAYS DURING THE WINTER OF 1928-1929

As provided in section 30, chapter 85, General Laws, as amended by chapter 526, Acts of 1922, and by chapters 180 and 342, Acts of 1925, regulations were adopted on Jan. 30, 1929, and public notice thereof given, providing that no person shall drive, operate or move any vehicle or object which with its load weighs more than ten thousand pounds over certain State highways without a permit therefor during the season. The regulations were in effect in the following counties during the periods stated:—

Barnstable County, Feb. 18 to Mar. 26, 1929.

Bristol County, Feb. 18 to Apr. 9, 1929.

Norfolk County, Feb. 18 to Apr. 9, 1929.

Plymouth County, Feb. 25 to Mar. 26, 1929.

Hampden County, Feb. 25 to Apr. 9, 1929.

Essex County, Mar. 1 to Apr. 9, 1929.

Middlesex County, Mar. 1 to Apr. 9, 1929.

Worcester County, Mar. 1 to Apr. 9, 1929, for Route 20 and roads to the south thereof; and to Apr. 23, 1929, for balance of roads in said county.

Hampshire County, Mar. 4 to Apr. 22, 1929.

Berkshire County, Mar. 4 to Apr. 29, 1929.

Franklin County, Mar. 4 to Apr. 29, 1929.

ROADSIDE MAINTENANCE AND DEVELOPMENT

Roadside maintenance has developed in importance beyond the amount of attention given a few years ago, because it is recognized that a systematic and intelligent control and development of all features of the roadside conditions is of value not only from the point of view of appearance but more particularly from the point of view of public safety. Telegraph, telephone and power lines or any other structures are not allowed within the highway layouts without permission from the Department.

The Department maintains as part of its organization a group of trained men to remove or trim trees, brush and undesirable growth, to remove growth that may obstruct vision at curves, intersections, or other points on the highway in order to render the operating conditions as safe as this factor may produce, and also with the idea of opening up vistas and other clearings at points of advantage. Careful consideration is given to the preservation and appearance of all growth within the layout, retaining such as is desirable and of keeping the roadsides clean. Any work of locating pole lines and of tree trimming by public service corporations within the layout is done wholly under supervision of the Department. In connection with all this work, there are three nurseries maintained in which the types of trees and shrubs suitable for use on the roadsides in Massachusetts are grown and made available for use by the Department.

During the past twenty-five years in which the State has conducted this work, 58,104 trees have been planted on the borders of the State highways. During this year the Department placed 1,977 trees and has continued the policy of planting quick growing trees and hedges in place of guard rails at suitable locations.

UNIFORM TRAFFIC SIGNS, LIGHTS, MARKINGS, SIGNAL SYSTEMS AND REGULATIONS

Authority and jurisdiction relating to the erection of traffic signs, lights, markings, signal systems and regulations on highways within the Commonwealth was placed in the Department of Public Works by chapter 357, Acts of 1928.

The purpose of this act was to establish throughout the cities and towns basic uniformity in signs, signals and devices for the control of traffic on ways within the Commonwealth and to provide for the safe and expeditious movement of through traffic upon the State highway routes. This authority makes it possible for the Department to insure that all traffic control signals to be erected by the municipalities shall be properly located and operated as aids to traffic flow rather than causing obstruction to such movement and also makes possible the proper protection of through routes from dangerous interference from cross traffic by the use, where necessary, of the "through-way-stop" regulation.

In order to carry out the provisions of this act, the Department organized last year a traffic engineering section. During this year the section has been engaged in the investigation of the traffic control signal installations, signs and regulations desired to be installed and maintained by the cities and towns, and on all traffic matters for the Department. This section also made the traffic study to determine the volume, classes and direction of traffic on the highways.

During the present year a second bulletin was issued by the Department and designated "Bulletin No. 2. A standard Code for Traffic Signal Installation and Operation." This code provides a uniform basis for all traffic control signals in use by the Commonwealth, and is the standard required to be met by cities and towns when requesting approval by the Department of such signals which they desire to install and maintain.

The Department has installed one traffic control signal, namely, — at Pope's Corner, Danvers, on the Newburyport Turnpike (Route 1) at its intersection with Andover Street (Route 114). This installation is of the traffic actuated type.

PERMITS TO COMMON CARRIERS OF PASSENGERS BY MOTOR VEHICLES

In accordance with sections 48A and 48B of chapter 280, Acts of 1925, which amends chapter 159, General Laws, 49 permits were granted during the year.

THE REGULATION OF ADVERTISING SIGNS AND DEVICES WITHIN THE PUBLIC VIEW (Sections 29–33, chapter 93, General Laws, as amended)

In accordance with the provisions of sections 29 to 33, inclusive, chapter 93, General Laws, as amended by chapters 85, 237, 334 and 490, Acts of 1924, providing for the control of billboards and other advertising devices on public ways or on private property within the public view of any highway, public park or reservation, the Department adopted on Jan. 24, 1924, certain new rules and regulations, superseding all former issues; and these have continued in force during the present year.

Applications, Licenses and Permits. — Licenses were granted to 37 individuals and others to engage in the business of advertising in the Commonwealth by the use of outdoor signs.

Of 1,500 applications received for permits for the erection of advertising signs, 951 permits have been granted; and 203 permits were granted on applications filed previous to 1929. Two hundred and thirty-two applications for the erection of new signs were not approved because the locations were in violation of the rules and regulations adopted Jan. 24, 1924; and 12 applications for permits were cancelled.

Of 2,784 renewal applications sent to those whose permits were to expire June 30, 1929, 2,568 were returned to the Department requesting renewal; and 131 requested that permits be cancelled. The number of renewal applications approved, to be in force until June 30, 1930, was 2,702. The total number of permits in force November 30, 1929, was 3,507.

Receipts and Expenditures. — The total receipts for the year ending Nov. 30, 1929, were \$17,495.13, and the expenditures were \$14,503.20.

Removal of Signs. — The regular work in the removal of signs has been carried on during the year, and 21,500 signs have been removed by the Department under authority of section 30-A, chapter 93, General Laws, from locations within the highways and from private property.

Injunction. — On June 19, 1925, a temporary injunction was granted the General Outdoor Advertising Company, Inc., and others, as complainants enjoining and restraining the Commissioners constituting the Department of Public Works, for the Commonwealth, until the further order of the Court, from proceeding in any way against them for any alleged failure to comply with the rules and regulations for the control and restriction of the billboards, signs and other devices promulgated under date of January 24, 1924. This injunction is still in force and will be until the case is settled in Court.

Hearings. — Hearings were given to officials of Kingston, Mansfield, Melrose, Norwood, Walpole, Watertown and Winchester, who had objected to the granting of permits for advertising signs in their respective towns and cities.

CONTRACT PRICES DEC. 1, 1928, TO NOV. 30, 1929

TOWN OR CITY	CONTRACTOR	EXCAVATION				Plain Conc. Masonry (cu. yd.)	BIT. SURFACING	
		Earth (cu. yd.)	Borrow (cu. yd.)	Ledge (cu. yd.)	Trench (cu. yd.)		Asphalt (gal.)	Tar (gal.)
Acton	John J. Watkins	\$0 60	\$0 65	\$3 00	\$0 90	\$18 00	\$0 07	-
Agawam	The Lane Constr. Corp.	0 45	-	3 00	0 75	20 00	0 095	-
Amesbury	R. G. Watkins & Son	0 55	0 60	2 50	0 90	18 00	-	\$0 14
Amesbury	John J. Watkins	0 90	-	-	-	-	0 11	-
Andover	J. P. McCabe, Inc.	0 65	-	3 00	1 25	15 00	0 10	-
Athol	Perini & Ampollini	0 50	-	3 00	1 50	-	0 12	-
Attleborough, Norton, Mansfield	Arute Bros., Inc.	0 60	0 75	2 50	1 00	22 00	0 10	-
Avon	Powers Bros.	0 70	0 75	2 00	1 00	20 00	0 11	-
Barnstable	Ashley & Loring	0 75	0 75	5 00	1 50	25 00	0 20	-
Bedford	Lawton Const. Co.	0 55	-	4 00	1 00	-	0 10	-
Bellingham	W. H. Hinman, Inc.	0 55	0 55	3 00	1 00	20 00	-	0 11
Beverly	J. Iafoffa	0 55	-	2 50	1 00	20 00	0 09	-
Blandford	Warner Bros. & Goodwin	1 00	-	3 00	1 50	30 00	-	0 15
Bolton	Frank Lanza & Sons	0 55	0 50	2 00	1 00	20 00	0 105	-
Bourne	M. F. Roach & Sons, Inc.	0 70	-	5 00	1 00	25 00	0 125	-
Boxford	Frank Lanza & Sons	0 45	0 60	2 00	1 00	20 00	0 10	-
Boylston-Clinton	Chas. E. Horne	0 58	0 58	2 50	1 25	20 00	0 105	-
Brewster	S. W. Lawrence	0 60	0 60	4 00	1 00	20 00	0 20	-
Braintree, Weymouth, Hingham	Peerless Const. Co.	0 50	0 65	2 00	1 00	15 00	0 085	-
Brimfield	A. G. Bianchi Cons. Co.	0 70	0 85	3 00	1 00	25 00	-	0 16
Burlington	John A. Gaffey	0 75	1 00	3 00	1 00	20 00	0 10	-
Cambridge	Coleman Bros., Inc.	1 00	0 89	3 00	2 00	25 00	0 10	-
Canton	Reynolds Bros., Inc.	0 60	0 60	4 00	1 25	20 00	0 10	-
Canton	Reynolds Bros., Inc.	1 40	-	1 40	1 40	20 00	0 105	-
Carlisle	Lawton Const. Co.	0 65	0 65	2 50	1 00	20 00	0 08	-
Charlton-Oxford	C. Bianchi & Co., Inc.	0 50	0 50	2 25	1 15	25 00	0 115	-
Charlton-Sturbridge	The Lane Const. Corp.	0 75	-	2 00	0 75	22 00	0 10	-
Chelsea	F. J. McCarthy Cont. Co.	0 65	-	5 00	1 20	20 00	0 095	-
Cheshire	C. B. Lindholm	1 00	1 00	5 00	-	-	-	-
Chester	The Lane Const. Corp.	0 60	0 50	3 00	1 75	22 00	0 10	-
Colrain-Shelburne	Perini & Ampollini	0 70	0 70	5 00	1 25	20 00	0 11	-
Concord	Greenough Const. Co.	0 80	-	0 80	1 00	20 00	0 10	-
Danvers	McCarthy Bros.	0 90	0 90	3 00	1 15	20 00	0 10	-
Danvers-Topsfield, Ipswich	Lawton Const. Co.	0 55	-	2 50	1 00	20 00	0 09	-
Dennis	Amos D. Bridges & Sons	0 50	0 60	0 50	1 00	20 00	0 20	-
Dennis	Washburn & Sheridan	0 65	0 65	5 00	1 50	20 00	0 20	-
Dedham	Perini & Ampollini	0 35	0 50	10 00	1 00	18 00	0 085	-
Dighton	Z. L. Canedy	0 75	-	4 00	1 50	20 00	0 12	-
Duxbury	Otis R. Mann	0 60	0 60	5 00	1 00	20 00	0 18	-
East Bridgewater	Frank Lanza & Sons	0 45	-	2 00	1 00	18 00	0 10	-
Easthampton	Warner Bros. & Goodwin	0 50	0 50	2 00	1 00	25 00	0 10	-
Easton-Sharon	C. Frangioso & Sons	0 55	0 60	4 00	1 25	20 00	-	0 12
Erving	Ralph E. Bull	0 75	0 75	2 00	1 00	18 00	0 11	-
Erving-Northfield	Kelleher Corp.	0 50	0 50	2 50	1 25	22 00	0 115	-
Essex	Octavius Menici	0 57	-	2 75	1 25	18 00	0 095	-
Falmouth	M. F. Roach & Sons	0 57	-	0 57	1 00	20 00	0 20	-
Florida-Savoy, Charlemont	D'Onfro Bros., Inc.	1 25	0 70	-	1 25	20 00	0 13	-
Foxborough	Dominic G. DiPietro	0 65	0 65	0 65	-	-	0 11	-
Framingham-Southborough	Middlesex Const. Co.	0 60	0 75	2 00	1 15	20 00	0 105	-
Franklin	Perini & Ampollini	0 40	1 00	3 00	1 00	15 00	-	0 12
Freetown	Roger T. Fay, Inc.	0 50	0 75	2 00	1 00	-	-	0 14
Gardner	Fitchburg Conc. Const. Co.	0 80	0 80	5 00	1 25	20 00	0 11	-
Gardner	H. & J. P. Green Co.	0 75	0 80	3 00	1 25	25 00	0 12	-
Georgetown	Frank Lanza & Sons	0 63	-	2 00	1 00	22 00	0 10	-
Gloucester	Welch & Moynihan	0 80	-	3 75	1 50	25 00	0 105	-
Gloucester	Welch & Moynihan	1 00	-	3 75	1 15	20 00	0 11	-
Grafton-Millbury	Hagan, Thibodeau Const. Co.	0 70	0 50	5 00	1 30	22 00	0 12	-
Greenfield	Kelleher Corp.	0 50	0 50	3 00	1 25	22 00	0 105	-
Greenfield	Kelleher Corp.	0 50	-	2 50	1 25	25 00	0 11	-
Groton	Antonio Pallato	0 50	-	4 00	0 75	30 00	0 11	-
Hadley	Warner Bros. & Goodwin, Inc.	1 50	0 70	5 00	1 25	25 00	0 11	-
Hadley	Warner Bros. & Goodwin, Inc.	0 50	-	5 00	1 00	25 00	0 10	-
Hanson	Washburn & Sheridan	1 00	1 00	5 00	1 50	25 00	0 20	-
Hardwick	A. G. Bianchi & Co., Inc.	0 75	-	3 00	1 00	25 00	0 18	-
Harwich	Otis R. Mann	0 75	0 75	3 00	1 00	25 00	0 18	-
Haverhill	A. Pallato	0 50	-	3 00	0 50	20 00	0 11	-
Hingham	Interstate Hy. Const. Co.	0 50	-	2 25	0 75	20 00	0 095	-
Holbrook	Powers Bros.	0 75	-	2 50	0 90	18 00	0 105	-
Holden	Marois Sand & Gravel Co.	0 70	-	4 00	1 25	25 00	0 13	-
Holland-Sturbridge	Waterbury Rd. Const. Co.	0 55	0 55	2 00	1 20	20 00	0 13	-
Holliston	Middlesex Const. Co.	0 60	-	2 00	1 10	25 00	0 11	-

CONTRACT PRICES DEC. 1, 1928, TO NOV. 30, 1929

Conc. Surf. (cu. yd.)	Broken Stone (ton)	PIPE CULVERT (lineal feet)							Wooden Guard Rail (lin. ft.)	Stone Filling (cu. yd.)	Catch Basins (each)	Reinf. Conc. Ma- sonry (cu. yd.)	Gravel Borrow (cu. yd.)
		CLAY			REINF. CONCRETE								
		10 In.	12 In.	15 In.	12 In.	15 In.	18 In.	24 In.					
-	-	-	\$0 70	-	\$1 00	-	-	-	\$0 65	-	-	\$20 00	\$0 60
-	\$2 25	\$0 55	0 65	\$1 15	-	-	-	\$3 50	0 60	\$2 25	\$70 00	25 00	0 55
-	-	0 45	0 50	-	0 90	-	-	2 75	-	-	50 00	18 00	0 65
\$9 60	2 70	-	-	-	-	-	-	-	-	-	-	-	1 00
-	2 50	0 50	0 65	1 05	-	-	-	-	0 80	-	65 00	28 00	0 90
-	3 20	-	0 75	1 80	-	-	-	-	-	3 00	75 00	-	1 00
-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	3 10	0 52	0 60	0 75	1 30	\$1 75	\$2 50	3 50	0 70	-	60 00	27 00	0 75
-	2 50	-	-	-	1 00	-	4 00	-	-	2 00	-	30 00	0 85
-	-	-	-	-	1 85	-	-	-	0 75	-	75 00	30 00	0 75
-	2 40	-	0 60	-	-	-	-	-	-	-	70 00	-	0 90
-	-	0 50	-	-	1 25	-	2 50	-	-	2 50	-	22 00	0 75
-	2 40	0 50	0 60	-	1 00	-	-	-	-	-	60 00	-	0 80
-	3 25	-	-	-	-	-	-	-	0 60	2 25	-	30 00	-
-	3 25	-	-	-	1 25	-	2 50	-	-	2 00	-	25 00	0 80
-	3 50	0 60	0 70	-	1 25	1 75	-	-	-	-	65 00	-	0 80
-	2 70	-	-	-	1 10	-	-	-	-	-	-	-	0 65
-	3 00	0 60	0 60	1 00	1 25	-	-	3 50	-	1 90	75 00	25 00	0 75
-	-	0 75	0 85	-	1 25	-	-	-	0 75	-	75 00	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	2 10	0 60	0 60	-	1 25	2 25	2 50	3 50	0 50	-	60 00	15 00	0 65
-	-	-	-	-	1 50	-	2 50	3 50	-	2 40	-	30 00	0 85
-	2 00	-	0 52	-	1 25	-	-	-	1 00	-	75 00	-	1 00
-	2 50	0 60	0 75	-	-	-	2 00	3 00	1 00	-	75 00	20 00	0 89
-	2 75	0 60	-	-	-	-	-	-	-	-	75 00	30 00	0 75
-	2 75	0 50	0 60	1 00	-	-	-	-	0 75	-	75 00	-	0 75
-	-	0 60	-	-	0 90	-	1 75	-	0 55	-	85 00	20 00	0 70
-	3 00	-	0 60	0 95	1 70	2 05	-	3 50	-	2 25	75 00	30 00	0 80
-	-	-	-	-	-	-	-	-	-	-	-	-	-
9 35	3 00	-	0 75	-	-	-	-	-	-	-	75 00	-	1 00
-	2 35	0 75	0 85	-	2 25	-	-	-	0 65	-	75 00	-	1 35
-	-	-	-	-	-	-	-	-	0 65	-	-	30 00	1 00
-	2 75	-	0 70	-	1 25	-	2 25	3 50	0 60	1 50	70 00	25 00	0 70
-	2 90	0 50	0 60	1 50	1 20	-	-	4 00	0 60	-	75 00	25 00	1 00
-	2 30	0 50	0 60	1 00	1 20	-	-	-	0 60	-	60 00	-	1 00
-	2 45	-	-	-	-	-	-	-	0 70	1 25	-	25 00	1 15
-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	2 30	1 00	0 60	1 00	1 10	1 50	2 25	3 50	0 60	-	60 00	20 00	0 60
-	-	-	-	-	1 10	-	-	-	0 60	-	70 00	-	-
-	-	0 75	-	-	1 25	-	-	-	0 80	-	75 00	25 00	-
-	2 30	0 75	0 75	-	1 00	3 00	4 00	-	0 60	-	60 00	-	0 50
-	3 00	0 50	0 60	-	-	-	-	-	-	2 00	75 00	35 00	1 10
-	-	0 65	-	-	1 25	-	2 00	-	0 60	-	-	-	1 00
-	2 85	0 45	0 55	0 90	1 10	1 50	-	3 50	0 60	-	60 00	25 00	0 65
-	2 50	-	-	-	-	-	-	-	1 00	2 00	70 00	30 00	0 50
-	-	-	-	-	1 15	-	-	-	0 60	1 00	-	22 00	0 80
-	3 05	0 70	0 75	1 00	1 25	2 00	2 70	3 90	0 50	-	70 00	25 00	0 75
-	2 80	0 60	0 70	-	1 15	1 75	2 25	3 50	0 55	-	75 00	28 00	0 85
-	2 60	0 50	-	-	0 95	1 40	2 25	-	0 70	2 00	60 00	30 00	0 77
-	-	-	-	-	1 25	-	2 50	-	-	-	60 00	25 00	0 80
-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	3 60	-	0 75	-	1 50	2 00	2 50	3 75	0 60	2 00	-	25 00	1 50
-	2 85	-	-	-	-	-	-	-	0 60	1 50	-	-	0 75
-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	2 70	0 55	0 60	-	1 15	-	2 75	-	0 60	-	65 00	25 00	0 79
-	-	0 50	-	-	1 25	-	2 50	-	-	2 00	50 00	15 00	0 50
-	-	-	-	-	-	-	-	3 50	0 75	-	-	-	0 85
-	3 50	-	0 70	-	1 20	-	-	-	-	2 10	-	25 00	0 90
-	3 40	-	0 70	-	1 40	-	2 25	4 00	-	2 50	80 00	30 00	0 90
-	2 90	0 55	0 65	-	1 25	-	-	-	0 60	2 50	70 00	35 00	0 80
-	2 85	0 50	0 60	-	-	-	-	-	-	-	75 00	-	1 35
-	2 95	0 55	0 60	-	1 15	1 90	-	-	-	-	70 00	20 00	1 50
-	3 20	-	0 60	1 00	1 00	2 00	1 75	2 50	-	2 45	80 00	30 00	0 90
-	2 35	-	-	-	-	-	-	-	-	-	-	30 00	0 50
-	2 50	0 60	0 70	-	1 10	-	2 25	-	0 55	2 00	70 00	30 00	0 80
-	2 50	0 50	0 60	0 75	0 60	-	1 00	-	-	-	75 00	-	0 60
-	2 25	-	1 00	2 00	-	-	-	-	1 00	-	-	-	1 00
-	2 05	0 50	0 60	1 00	1 10	-	-	3 00	0 50	-	60 00	30 00	0 60
-	-	-	-	-	1 25	-	-	-	-	-	75 00	-	1 00
-	2 80	-	-	-	1 25	-	2 50	-	-	2 00	-	30 00	0 90
-	-	0 55	-	-	0 65	-	-	-	0 75	-	80 00	-	1 50
-	2 60	0 60	0 75	0 75	0 75	-	-	-	0 75	2 15	80 00	20 00	0 85
-	2 25	0 55	0 65	-	1 10	-	-	-	0 55	-	53 00	-	0 45
-	2 50	0 45	0 55	1 00	-	-	-	-	-	-	65 00	-	0 90
-	2 90	0 60	0 75	-	2 50	-	-	-	-	2 50	75 00	-	0 45
-	3 55	-	-	-	1 00	-	2 00	3 00	0 50	2 10	-	35 00	0 70
-	2 50	-	0 60	-	-	-	-	-	1 00	-	60 00	-	0 85

CONTRACT PRICES DEC. 1, 1928, TO NOV. 30, 1929 — *Continued*

TOWN OR CITY	CONTRACTOR	EXCAVATION				Plain Conc. Masonry (cu. yd.)	BIT. SURFACING	
		Earth (cu. yd.)	Borrow (cu. yd.)	Ledge (cu. yd.)	Trench (cu. yd.)		Asphalt (gal.)	Tar (gal.)
Holyoke-Westfield	The Lane Constr. Corp.	\$0 50	\$0 50	\$2 25	\$2 00	\$22 00	\$0 095	-
Hudson	John Iafolia	0 65	0 60	3 00	0 90	18 00	0 10	-
Kingston	A. D. Bridge's Sons, Inc.	0 65	-	4 00	1 00	25 00	0 12	-
Kingston	A. D. Bridge's Sons, Inc.	0 50	-	0 50	1 00	20 00	0 11	\$0 20
Lakeville	N. & B. Crushed Stone & Gravel Co.	0 58	0 68	2 00	1 00	19 75	0 11	-
Lancaster	A. M. Custance & Co., Inc.	0 65	0 65	3 00	1 15	20 00	0 095	-
Lanesborough	The Lane Const. Corp.	0 60	-	0 60	1 50	22 00	0 17	-
Lanesborough-New Ashford	The Lane Const. Corp.	0 80	0 90	2 25	2 00	22 00	0 18	-
Leominster	Fitchburg Conc. Const. Co.	0 60	-	-	1 50	20 00	0 11	-
Lexington	John A. Gaffey & Son	0 55	-	2 50	0 95	-	0 10	-
Ludlow	A. G. Bianchi Const. Co.	0 50	0 50	0 50	1 00	22 00	0 12	-
Lunenburg	John F. Rooney	0 55	-	1 00	1 00	18 00	-	0 08
Lynn	D. Cerulli & Son	0 45	0 90	2 00	0 90	15 00	0 08½	-
Lynnfield	M. McDonough	0 60	-	3 00	1 25	25 00	0 10	-
Lynnfield-Peabody								
Danvers	Warren Bros. Roads Co.	0 76	-	4 00	1 40	23 00	0 12	-
Malden	C. M. Callahan, Inc.	0 60	-	3 00	1 00	20 00	0 08	-
Marion-Wareham	Charles I. Hosmer	0 80	0 80	14 00	1 50	20 00	0 13	-
Marlborough	Middlesex Const. Co.	0 65	-	4 00	1 00	-	-	-
Mattapoisett	Watkins Bros.	0 60	1 00	4 00	1 00	14 00	0 12	-
Maynard-Stow	Thomas Mulcare, Inc.	-	-	5 00	-	-	0 30	-
Medfield	Edward O'Toole	0 75	0 80	3 00	1 50	12 00	0 10	-
Medway	Iron Trap Rock Co.	0 52	-	2 00	1 25	20 00	0 10	-
Mendon	John F. Rooney	0 55	-	2 50	1 00	20 00	-	0 08
Milford	Frank Lanza & Sons	0 60	-	2 00	1 00	20 00	0 10½	-
Milford	C. Bianchi & Co., Inc.	0 65	-	6 00	1 00	25 00	-	-
Milford	G. Bonazzoli & Sons	0 80	-	2 75	1 25	20 00	0 13	-
Milford-Hopedale								
Upton	R. H. Newell Co.	0 80	0 90	2 25	1 25	25 00	0 12	-
Millbury	C. E. Horne	1 50	-	1 50	-	20 00	-	-
Millis	Franklin Const. Co.	0 50	-	01	0 75	17 00	0 10	-
Millville	Henry Goulet	1 00	-	3 00	1 00	25 00	0 12	-
Monson-Palmer	Raymond A. Bergesson	1 00	1 25	5 00	1 50	25 00	0 12	-
Montague	Kelleher Corp.	0 50	0 50	0 50	1 00	22 00	0 10	-
Nantucket	John C. Ring	1 00	1 00	1 00	1 00	25 00	0 35	-
Needham	John Iafolia Const. Co.	0 76	-	0 76	1 00	20 00	0 085	-
Newbury	Merritt, Chapman & Scott	0 60	0 60	15 00	1 00	20 00	0 10	-
Newbury	Lincoln & Belding	0 70	-	4 00	1 50	20 00	-	0 15
Newton	Raimo & Panakio	0 45	-	1 00	1 00	18 00	0 09	-
Newton-Wellesley	F. T. Ley Co.	1 40	-	7 00	2 80	-	0 18	-
North Adams	The Lane Constr. Corp.	0 50	0 65	3 25	2 00	25 00	0 11	-
North Andover	P. J. Holland	0 60	0 70	2 50	1 50	20 00	-	-
Oxford	Raimo & Panakio	0 60	0 70	2 50	1 00	18 00	0 11	-
Palmer	A. G. Bianchi	1 00	0 50	2 00	1 00	-	0 12	-
Peabody	A. Mogavero	0 70	-	2 00	1 25	35 00	0 095	-
Pembroke	E. M. Miskell	0 70	0 80	3 00	1 00	20 00	0 11	-
Pepperell	J. E. Watkins Co.	0 50	0 60	2 50	0 75	20 00	0 07	-
Petersham	Catanese Const. Co.	0 65	0 70	3 00	1 00	25 00	-	0 11
Phillipston	Warner Bros. & Goodwin, Inc.	0 50	-	2 00	1 00	25 00	-	0 15
Plymouth	Coleman Bros., Inc.	0 70	1 00	4 00	1 70	22 00	0 13	-
Provincetown	M. F. Roach & Sons, Inc.	1 00	-	5 00	1 00	25 00	0 25	-
Provincetown	M. F. Roach & Sons, Inc.	0 75	0 80	5 00	1 00	20 00	0 20	-
Quincy	M. McDonough Co.	0 50	1 00	3 00	1 25	20 00	0 11	-
Randolph	Powers Bros.	0 75	-	2 00	1 00	18 00	-	0 12
Rehoboth	Z. L. Canedy	0 75	0 90	4 00	2 00	15 00	-	0 12
Rehoboth-Seekonk	Jos. McCormick	0 75	0 80	2 50	1 25	25 00	0 12	-
Royalston	Raymond J. Andrews	0 70	0 85	3 75	1 50	25 00	-	0 13
Salem	Higgins & Collins Co.	0 90	-	4 00	-	-	0 11	-
Salisbury	R. G. Watkins & Son	0 65	-	3 00	1 00	20 00	0 10	-
Saugus	M. McDonough Co.	1 00	-	-	1 00	25 00	0 095	-
Savoy	Kelleher Corp.	0 80	0 95	3 00	1 50	-	-	-
Sharon	C. E. Horne	0 70	0 80	1 75	1 00	20 00	-	0 13
Sherborn	Frank & Frank Const. Co.	0 65	-	3 00	1 00	20 00	0 10	-
Spencer	Hagan-Thibodeau Const. Co.	1 00	1 00	3 00	1 00	18 00	-	0 15
Sterling	Fitchburg Conc. Const. Co.	0 75	-	-	-	-	-	0 11
Sterling	Frank Serretto & Sons, Inc.	0 55	0 50	3 00	0 75	16 00	-	0 16
Stoneham								
Wakefield	T. J. McCue	0 63	-	4 00	1 00	20 00	0 09	-
Stoneham								
Winchester	Raimo & Panakio	0 70	-	2 25	1 00	18 00	0 09	-
Sunderland	Kelleher Corp.	0 50	-	3 00	1 25	25 00	0 125	-
Sutton	G. Bonazzoli & Son	1 00	-	5 00	1 50	25 00	0 12	-
Taunton	John Iafolia Const. Co.	0 45	0 50	3 00	1 00	18 00	0 10	-
Townsend	Lawton Const. Co.	0 60	0 55	0 60	1 00	20 00	0 075	-
Watertown	T. J. McCue	0 50	-	5 00	-	-	-	-

CONTRACT PRICES DEC. 1, 1928, to Nov. 30, 1929—Continued

Conc. Surf. (cu. yd.)	Broken Stone (ton)	PIPE CULVERT (lineal feet)								Wooden Guard Rail (lin. ft.)	Stone Filling (cu. yd.)	Catch Basins (each)	Reinf. Conc. Ma- sonry (cu. yd.)	Gravel Borrow (cu. yd.)
		CLAY			REINF. CONCRETE									
		10 In.	12 In.	15 In.	12 In.	15 In.	18 In.	24 In.						
-	\$2 05	\$0 75	\$1 00	-	\$1 25	\$1 75	\$2 25	\$3 50	\$0 55	\$1 75	\$90 00	\$25 00	\$1 10	
-	2 85	0 55	0 60	-	1 15	1 50	-	-	0 60	-	65 00	-	0 70	
-	3 05	0 50	0 60	\$1 10	1 25	1 60	2 25	3 50	0 60	-	70 00	30 00	0 85	
-	2 90	0 55	0 70	-	1 00	-	-	-	0 55	-	70 00	25 00	0 75	
-	2 95	-	-	-	1 15	1 85	-	-	2 00	-	-	-	0 70	
-	3 00	-	-	-	1 05	-	-	-	2 20	65 00	20 00	0 75		
\$9 00	3 75	-	-	-	1 25	-	2 25	3 00	0 60	2 50	-	30 00	0 80	
9 75	4 00	-	-	-	1 25	-	2 25	3 00	0 60	-	-	30 00	0 85	
-	3 10	-	1 50	-	-	-	-	-	-	-	-	-	0 60	
-	2 10	-	0 50	0 90	1 25	-	-	-	0 60	-	65 00	25 00	0 85	
-	3 00	-	-	-	-	-	-	-	0 60	2 50	-	28 00	1 00	
-	-	-	-	-	1 00	-	1 50	3 00	-	1 60	60 00	20 00	0 50	
-	2 00	0 50	0 60	-	-	-	-	-	0 55	-	55 00	-	0 70	
-	2 30	0 55	0 65	-	1 00	-	-	-	0 80	1 25	-	30 00	0 85	
-	2 39	0 48	0 61	1 00	1 15	-	-	2 73	0 65	-	65 00	27 00	0 87	
10 00	2 05	0 45	0 60	-	1 00	1 50	2 00	-	-	-	70 00	-	0 75	
-	3 80	-	-	-	1 30	-	-	-	-	-	80 00	30 00	1 20	
10 50	-	0 50	0 60	-	1 10	-	2 50	-	-	-	60 00	-	0 75	
-	2 75	0 75	0 75	1 50	1 65	-	2 25	-	0 75	-	50 00	25 00	0 85	
-	-	-	-	-	-	-	-	-	-	-	-	30 00	2 00	
-	3 00	0 60	-	-	1 50	1 50	-	-	-	-	-	12 00	0 90	
-	2 60	0 65	0 80	-	1 25	-	2 10	-	0 60	-	72 50	22 00	0 75	
-	-	-	-	-	1 00	-	-	-	-	1 60	-	20 00	0 60	
-	2 65	-	0 55	0 90	1 10	1 60	-	-	-	2 00	60 00	-	0 80	
9 50	-	0 55	0 60	1 00	-	-	-	3 25	-	-	75 00	30 00	0 80	
-	2 75	-	1 10	-	1 25	-	2 50	3 50	0 60	-	75 00	25 00	1 00	
-	3 25	0 65	0 70	-	1 25	2 00	2 50	4 00	0 85	2 25	90 00	30 00	1 25	
12 00	2 45	0 45	0 50	1 00	1 25	-	-	-	-	-	-	-	1 25	
-	-	-	-	-	1 50	-	-	-	-	-	50 00	-	0 70	
-	3 25	-	1 00	-	-	-	-	2 50	-	2 25	-	25 00	1 25	
-	2 30	-	-	-	-	-	-	-	-	2 50	70 00	24 00	1 25	
-	-	-	-	-	-	-	-	-	0 50	-	-	25 00	0 50	
-	2 25	0 40	-	-	0 90	1 20	-	-	-	1 00	60 00	20 00	0 60	
-	2 70	1 00	-	-	1 50	-	-	-	1 00	-	75 00	28 00	1 30	
-	-	0 70	0 80	-	-	-	-	-	-	-	70 00	28 00	0 85	
-	2 15	-	0 50	1 00	1 00	-	-	-	-	-	60 00	-	0 70	
-	4 48	-	0 93	-	-	-	-	-	-	3 50	84 00	27 11	1 75	
10 50	3 45	0 75	0 85	-	1 25	1 75	-	4 00	0 55	-	85 00	30 00	0 80	
9 25	2 50	1 00	1 00	1 50	2 00	-	-	4 00	0 80	3 00	80 00	30 00	0 90	
-	3 00	0 50	0 60	-	1 25	-	2 00	-	-	1 75	70 00	25 00	0 80	
-	-	-	-	-	-	-	-	-	-	2 20	-	-	0 90	
-	2 10	0 45	-	-	0 95	-	-	2 75	-	-	75 00	-	1 00	
-	2 90	-	-	-	1 25	-	2 00	-	0 75	-	100 00	25 00	0 90	
-	-	-	0 50	-	1 25	1 50	-	3 00	0 60	-	60 00	20 00	0 60	
-	-	-	-	-	1 25	-	-	-	-	2 15	-	30 00	0 80	
-	-	0 60	1 00	-	1 25	-	-	3 00	1 75	70 00	35 00	0 60		
-	3 10	0 60	0 65	1 00	1 00	1 40	2 00	5 00	0 80	-	80 00	30 00	1 20	
-	-	-	-	-	1 25	-	-	-	0 65	-	65 00	-	-	
-	-	-	-	-	1 30	-	-	-	0 65	-	-	-	-	
-	2 40	0 60	-	-	1 00	-	-	-	0 60	-	65 00	-	1 25	
-	-	0 50	-	-	-	-	-	-	-	2 00	65 00	30 00	0 80	
-	2 60	-	-	-	-	-	-	4 00	1 00	1 75	-	30 00	0 90	
9 90	2 90	0 55	0 65	-	1 25	-	2 10	3 25	0 70	-	80 00	25 00	0 90	
-	0 75	-	-	-	1 25	-	2 25	3 50	-	1 50	-	30 00	1 05	
8 65	2 60	-	-	-	0 90	-	-	-	-	-	-	-	1 00	
-	2 20	-	0 80	-	-	-	-	-	-	-	50 00	-	0 70	
-	-	-	-	-	-	-	-	-	-	-	-	-	1 25	
-	-	-	-	-	1 00	1 75	-	-	0 60	1 00	-	30 00	-	
-	2 65	0 45	0 55	-	1 00	-	-	3 00	0 60	-	80 00	-	0 80	
-	3 10	-	-	-	1 25	-	2 00	-	-	2 10	-	18 00	0 90	
-	-	-	-	-	-	-	-	-	0 60	-	-	25 00	1 00	
-	-	-	-	-	-	-	2 25	-	-	1 00	-	21 00	0 50	
-	2 20	0 60	0 70	1 00	1 20	2 00	-	1 50	-	-	60 00	-	0 80	
-	2 00	0 48	0 55	-	1 10	1 50	-	-	0 70	-	60 00	-	1 00	
-	2 65	-	-	-	-	-	-	-	-	-	-	-	0 85	
-	3 35	-	-	-	1 25	-	-	-	0 60	2 50	80 00	30 00	1 00	
-	2 90	0 45	0 55	-	0 90	-	-	-	-	-	55 00	-	0 80	
-	-	-	-	-	0 90	1 40	-	3 25	-	-	-	20 00	0 65	
9 00	-	-	-	-	-	-	-	-	-	-	-	-	0 78	

CONTRACT PRICES DEC. 1, 1928, TO NOV. 30, 1929 — *Concluded*

TOWN OR CITY	CONTRACTOR	EXCAVATION				Plain Conc. Masonry (cu. yd.)	BIT. SURFACING	
		Earth (cu. yd.)	Borrow (cu. yd.)	Ledge (cu. yd.)	Trench (cu. yd.)		Asphalt (gal.)	Tar (gal.)
Wayland . . .	D. Cerulli & Son . . .	\$0 49	-	\$2 00	\$0 75	\$15 00	\$0 095	-
Westborough . .	Frank & Frank Const. Co. . .	0 55	\$0 50	3 00	1 25	18 00	0 10	-
Westborough . .	Hudson Const. Co. . .	0 65	0 70	2 50	1 00	20 00	0 11	-
West Boylston . .	Hagan-Thibodeau Const. Co. . .	1 20	1 20	1 20	1 30	20 00	-	\$0 13
West Bridgewater .	Washburn & Sheridan . . .	0 50	-	3 00	1 50	20 00	-	0 13
Westford . . .	Antonio Palloto . . .	0 60	0 60	4 00	0 75	20 00	0 08	-
Westford . . .	Greenough Const. Co. . .	0 80	0 60	4 00	1 50	20 00	0 10	-
Weston . . .	Greenough Const. Co. . .	0 80	0 70	4 00	1 00	20 00	0 10	-
West Springfield .	The Lane Constr. Corp. . .	0 55	-	3 00	1 00	25 00	0 095	-
West Tisbury . .	Washburn & Sheridan . . .	1 00	-	5 00	1 50	20 00	0 25	-
Westwood . . .	Hudson Const. Co. . .	0 85	-	3 00	-	-	0 12	-
Wilbraham . . .	Dracut Const. Co. . .	0 85	0 60	3 50	1 25	25 00	0 11	-
Wrentham . . .	T. J. Quinn & Sons. . .	0 75	-	2 50	1 25	20 00	0 11½	-
Yarmouth . . .	Washburn & Sheridan . . .	0 65	-	4 00	-	-	0 20	-

REGISTRY OF MOTOR VEHICLES

Nearly all phases of the work of the Registry of Motor Vehicles have shown a normal yearly increase. The total receipts turned over directly by the Registry for fees have been materially decreased by the reduction of 70 per cent in registration fees resulting from the adoption of the gasoline tax in this State as provided in chapter 316, Acts of 1928. This loss, however, is fully offset by the revenue received from the gasoline tax which is credited to the Highway Fund but is collected through the Department of Corporations and Taxation.

The law relating to compulsory motor vehicle liability insurance occasions much extra work in connection with registrations. Chapter 379, Acts of 1928, providing for an excise tax from Jan. 1, 1929, has also added considerable detail work, as this law requires the Registrar to furnish a copy of each registration record to the Commissioner of Corporations and Taxation. This official forwards the information on cards to the various boards of assessors for use as the basis of the excise tax bill sent to the owner of each motor registered.

The Registry of Motor Vehicles has endeavored by every means available to secure strict enforcement of the motor vehicle laws to produce greater safety on the highways and to reduce accidents to both persons and property. This office has cooperated with the various safety organizations throughout the State in impressing upon the motoring public and pedestrians the necessity for caution when riding or walking on the highways.

A few of the outstanding figures for the year, together with a comparison of the previous year, follow: —

	1928	1929
Certificates of registration issued (passenger cars, commercial vehicles and motor cycles)	890,251	1,023,084
Licenses to operate issued	870,160	944,338
Examinations of applicants for licenses	154,594	183,758
Licenses and registrations revoked and suspended	40,814	53,133
Licenses revoked for driving under influence of liquor	5,071	5,381
Total number of applications handled	1,876,174	2,106,564
Gross receipts from fees	\$13,420,453.05	\$6,498,854.72

REGISTRATIONS OF PASSENGER CARS, COMMERCIAL VEHICLES AND MOTOR CYCLES

The following registration figures indicate an increase of nearly 15 per cent in both passenger and commercial vehicle registrations. The motor cycle registrations continue to decrease as they have for several years past.

	1905	1910	1915	1920	1925	1928	1929
Passenger cars	4,889	31,360	90,580	251,570	663,858	784,453	903,648
Commercial vehicles	—	—	12,053	52,968	100,480	99,142	113,268
Motor Cycles	553	3,358	9,520	15,142	10,333	6,656	6,168
Totals	5,442	34,718	112,153	319,680	774,671	890,251	1,023,084

EXAMINATIONS FOR LICENSES

Examinations of applicants for licenses to operate motor vehicles were held at 54 points in the State, with the results as tabulated below: —

	1928	1929
Operators passed	106,942	122,887
Operators unfit	22,664	33,104
Restriction, removal, passed	21,642	22,808
Restriction, removal, unfit	2,621	3,717
"Competency" passed	682	1,144
"Competency" unfit	43	98
Total examinations	154,594	183,758

BRANCH OFFICES

The branch offices of the Registry of Motor Vehicles assist in the distribution of number plates, the issuing of licenses and furnishing general information relative to the motor vehicle laws. In 1929 the Registrar began to give hearings at stated intervals at the branch offices in Pittsfield, Springfield, Worcester, Lawrence, Lowell, Fall River and New Bedford, so that persons whose licenses or rights have been suspended or who, for other reasons, wish an appointment with the Registrar, may be heard by him or by his deputy or assistant. Each branch office supervises the work of the examiners and investigators and of law enforcement in its district. The following table gives approximate figures regarding applications received at the branch offices and at the central office at Commonwealth Pier 5, Boston: —

APPROXIMATE DISTRIBUTION OF REGISTRATIONS, LICENSES, ETC.					
Boston:	Regis- trations	First Licenses	License Renewals	Miscel- laneous	Total
Counter . . .	237,000	—	112,000	95,000	444,000
Mail . . .	161,000	—	461,000	37,000	659,000
Examinations . . .	—	51,000	—	20,000	71,000
Pittsfield . . .	24,500	4,100	14,000	10,000	52,600
Springfield . . .	80,000	15,000	43,000	35,000	173,000
Worcester . . .	70,000	11,500	38,000	31,000	150,500
Lawrence . . .	33,000	5,800	23,000	14,000	75,800
Lowell . . .	25,000	4,700	17,000	10,000	56,700
Fall River . . .	23,000	5,600	17,500	9,800	55,900
New Bedford . . .	24,000	3,800	20,000	9,800	57,600
Lynn . . .	58,500	12,000	35,000	26,000	131,500
Quincy . . .	28,000	8,200	19,000	15,000	70,200
Brockton . . .	38,000	3,000	24,000	19,000	84,000
Hyannis . . .	9,300	2,400	4,300	5,200	21,200
Nantucket ¹ . . .	1,200	—	—	—	1,200
Oak Bluffs ¹ . . .	2,300	—	—	—	2,300
Totals . . .	814,800 ³	127,100	827,800	336,800 ²	2,106,500

A new branch office was opened in Greenfield on August 30, 1929, but the work of this office for the current year is included in that of the Springfield office as the new branch is a sub-office coming under the jurisdiction of the Springfield office.

COMPULSORY MOTOR VEHICLE LIABILITY INSURANCE

The following figures give an approximate idea of the volume of papers received and notices mailed in connection with the carrying out of the law regarding compulsory motor vehicle liability insurance.

NOTICES OF CANCELLATION OF INSURANCE POLICIES RECEIVED AND INTENTS TO REVOKE MAILED			1928	1929
(a) For non-payment of premiums			38,359	49,846
(b) For other reasons			16,109	15,755
Total			54,468	65,601
Revocations			16,782	25,596
Sets of number plates returned			53,460	97,036

It is interesting to note that the receipt of 65,601 notices of cancellation from insurance companies required the mailing of the same number of notices of intent

¹ Licenses and miscellaneous applications included in counter figures.
² This figure includes approximately 200,000 number plate reissues.
³ Does not include reissues (see Miscellaneous).

to revoke; that approximately 17,000 of these cases were adjusted by the filing of certificates of insurance by a new company; approximately 20,000 were adjusted by the filing of reinstatement certificates from the same company; approximately 2,800 by the surrender of number plates prior to the effective date of cancellation; and approximately 26,000 by the revocation of the plates and certificates. In connection with the surrender of the number plates it was necessary to send notices of the return of these plates to the various insurance companies covering the registrations involved.

AIRCRAFT

By chapter 388, Acts of 1928, the powers and duties of the Department and the Registrar in regard to the legislation of aircraft and the licensing of pilots have been extended. This change in the law and the progress made in the industry itself have resulted in a rapid increase in the volume of this work.

Non-resident pilots and aircraft registered outside the Commonwealth now come under the jurisdiction of the Registrar shortly after entering the State. The filing of statements is required describing the aircraft and giving facts concerning licenses from other authorities. If these credentials are satisfactory and the condition of the aircraft meets the requirements of the State laws, permits are issued allowing the pilots to continue the operation of such aircraft in the Commonwealth. The work of investigating the credentials before the issuance of such permits is as great as that involved in the registration of Massachusetts aircraft under the law.

All landing fields, whether public or private, in Massachusetts are now under the supervision of the Department of Public Works, in accordance with the provisions of chapter 388, Acts of 1928, which authorizes said Department to prohibit or allow the use of such fields. As a basis for action in such matters it has been necessary to have surveys and plans of such fields made by the engineers of the Department under the supervision of the Registrar and the Supervisor of Aviation.

The following figures give an indication of the work involved: —

	1928	1929
Pilots' licenses issued	51	42
Airplanes registered	18	36
Pilots' license fees received	\$435	\$355
Airplane registration fees received	\$270	\$540
Pilots examined for licenses	—	36
Aircraft examined for repairs	—	60
Pilots' permits issued	—	173
Aircraft permits issued	—	135
Suspensions of licenses, registrations and rights to operate	11	41
Court convictions for violations of aircraft laws	—	6
Surveys of fields for airports	—	47
Flying fields approved	—	3
Flying fields disapproved	—	14
Investigations made by aircraft inspectors	—	313
Airplane accidents:		
Crack-ups	—	68
Non-fatal	—	19
Fatals	—	8
Persons injured	—	29
Persons killed	—	13
Caused by motor failure	—	28
Structural failure	—	10
Improper operation and other reasons	—	57

INSPECTION OF MOTOR VEHICLE EQUIPMENT

On account of the small number of inspectors available for the work, the enforcement of the provisions of the motor vehicle law relating to equipment has been less strict than in previous years. Approximately ten men were engaged exclusively in this work instead of sixteen to thirty in previous years.

Headlighting

Continuing the policy of approving complete headlamps only, the Registrar issued approval of two new headlamps as follows: (1) a single filament, fixed beam, headlamp and (2) a double filament, tilting beam, headlamp; and extensions of approval certificates already in force, as follows: (1) a single filament, fixed beam, headlamp and (2) five double filament, tilting beam, headlamps. There is a tendency toward the tilting beam type and the proper design of the headlamp so that focusing mechanisms may be eliminated. In addition, a large number of headlamps or other headlighting devices including shields, various patented fixtures, lenses, reflectors, and complete units submitted were rejected for justifiable reasons.

Rear Lamps

Nine rear lamps were approved by the Registrar during the year. Of these none were of the single lamp type, but six were combined with stop signals only, and three with stop signals and backing lights.

MOTOR VEHICLE DEATHS, INJURIES, COLLISIONS

The deaths caused by motor vehicles in 1929 numbered 777, an increase of 62 or 8.6 per cent as compared with the previous year. The record of persons killed and injured in motor vehicle accidents in 1928 and 1929 is as follows:

Motor Vehicle Accidents to Persons

	Persons Killed		Persons Injured	
	1928	1929	1928	1929
Pedestrians by autos	432	432	17,418	18,090
Pedestrians by motor cycles	3	4	25	35
Pedestrians near street cars	12	11	45	31
Occupants of autos	202	249	23,077	25,801
Occupants of autos at railroad crossings	21	24	76	47
Occupants of motor cycles	22	27	423	565
Bicycle riders	10	14	691	955
Occupants horse-drawn vehicles	5	5	303	302
Coasters (on sleds)	8	9	143	285
Coasters (on wheels)	0	2	0	0
Totals	715	777	42,201	46,111
	Children Killed		Children Injured	
	1928	1929	1928	1929
Boys	144	137	6,712	7,294
Girls	62	60	2,950	3,292
Totals	206	197	9,662	10,586

Number of Collisions

	1928	1929
Autos v. pedestrians	17,171	17,585
Autos v. autos	19,289	20,819
Autos v. horse-drawn vehicles	336	392
Autos v. bicycles	703	959
Autos v. trolley cars	355	447
Autos v. poles, trees, etc.	1,734	2,869
Autos v. trains	68	68
Autos v. motor cycles	385	517
Autos v. sleds	128	255
Motor cycles v. pedestrians	23	40
Totals	40,192	43,958

58		P.D. 54
	1928	1929
In the daytime	27,534	29,645
After dark	12,658	14,313
Totals	40,192	43,958

ACCIDENT REPORT LETTERS

As provided by section 26, chapter 90, General Laws, every operator of a motor vehicle in any manner involved in an accident in which any person is killed or injured is required to report in writing to the Registrar. The number of these accident reports received in 1929 was 35,014 as compared with 33,228 received in 1928. Under the requirements of section 29, chapter 90, General Laws, 17,186 similar reports of accidents were received from Police Departments throughout the state in 1929 as against 15,268 received in 1928.

COMPARATIVE STATEMENT OF YEARLY REGISTRATIONS, LICENSES, DEATHS, INJURIES, REVOCATIONS AND SUSPENSIONS

Year	Automobiles Registered ¹	Motor Cycles Registered	Total Registrations	Number of Persons Killed	Number of Persons Injured	Licenses Issued	Total Suspensions and Revocations	For Operating Under Influence of Liquor
1910	31,360	3,358	34,718	77	963	41,259	283	22
1911	38,907	3,658	42,565	110	1,248	51,950	360	14
1912	50,132	5,034	55,166	142	1,962	66,645	546	56
1913	62,660	7,127	69,787	188	2,923	81,034	608	87
1914	77,246	8,161	85,407	229	4,010	99,532	858	131
1915	102,633	9,520	112,153	294	6,197	133,935	1,153	202
1916	136,809	10,713	147,522	315	9,131	171,596	1,396	320
1917	174,274	11,065	185,339	438	7,282	214,229	1,831	485
1918	193,497	12,862	206,359	499	8,598	235,140	2,343	553
1919	247,183	13,698	260,881	582	16,287	297,968	2,156	554
1920	304,631	15,143	319,774	481	21,182	361,539	2,944	888
1921	360,731	12,058	372,790	544	11,487	380,519	4,899	1,508
1922	449,838	11,675	461,513	522	15,277	444,173	8,369	2,460
1923	566,150	11,733	577,883	578	16,217	536,819	11,613	3,333
1924	672,315	10,778	683,093	709	19,579	620,439	14,154	4,395
1925	764,338	10,333	774,671	755	25,736	698,378	16,249	4,654
1926	826,224	9,215	835,439	705	25,351	763,951	18,705	4,863
1927	819,703	7,245	826,948	693	31,721	814,094	31,252	4,983
1928	883,595	6,656	890,251	715	42,201	870,160	40,814	5,071
1929	1,019,460	6,168	1,025,628	777	46,111	944,338	53,133	5,381

¹ Passenger cars and commercial vehicles.

INVESTIGATIONS AND PROSECUTIONS BY INSPECTORS

Investigations and examinations were made under the direction of the Chief Inspector relative to fatal and non-fatal accidents, headlight violations, inspection of garages, miscellaneous complaints and the prosecution of motorists in court. The work of the inspectors is indicated by the following tabulation on the classification of reports: —

	1928	1929
Accidents, fatal	714	747
Accidents, non-fatal	2,112	2,455
Accidents, brief reports	1,305	1,445
General reputation	3,288	3,302
Miscellaneous	6,193	6,194
Totals	13,612	14,143
Complaints filed	14,756	10,178
Garages inspected	8,207	2,897
Headlight and other violations reported	71,174	48,693
Prosecutions conducted	888	825
Amount of fines	\$42,244	\$38,765

REVOCATIONS AND SUSPENSIONS

	1928	1929
Licenses suspended	9,562	12,120
Licenses revoked	3,995	4,014
Rights suspended	4,389	4,174
Certificates suspended	17	9
Certificates revoked	20,679	30,500
Certificates and licenses suspended	72	45
Certificates and licenses revoked	1,828	2,046
Certificates revoked and rights suspended	157	157
Rights in Massachusetts suspended	115	68
Totals	40,814	53,133
Resulting from investigations	12,714	16,040
Resulting from court convictions	10,129	9,985
Resulting from Police complaints	1,075	1,755
Resulting from Judges' complaints	21	46
Resulting from State Police complaints	81	199
Resulting from Insurance cancellations	16,794	25,108
Totals	40,814	53,133

Character of Offences

	1928	1929
Reckless and endangering	2,138	2,209
Liquor convictions	4,240	4,575
Going away after accidents	479	474
Without authority	557	669
Racing	5	6
Improper person, liquor	831	806
Improper person	6,184	5,570
Improper operation	5,764	8,297
Two overspeeds	260	381
Three overspeeds	21	34
Insurance cancellations	16,794	25,108
Insurance convictions	407	382
Improper equipment, miscellaneous	147	1,685
Improper equipment, lights	1,365	1,793
Improper equipment, brakes	682	219
Deaths (fatal accidents)	710	765
Other offences	230	160
Totals	40,814	53,133

Hearings	6,929	6,751
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Court recommendations adopted: —

Liquor	0	0
Reckless and endangering	52	58
Going away after accidents	3	17
Without authority	0	1
Totals	55	76

Persons whose licenses were suspended or revoked and who had to pass examinations in order to have them returned .	3,680	4,077
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ANALYSIS OF COURT ABSTRACTS RECEIVED

	1928	1929
Number of courts forwarding abstracts	95	95
Total abstracts received	53,345	57,025
Number of abstracts recording convictions	42,052	46,448

Offences

(Analysis of guilty cases, not including appeals)

Overspeeding	11,375	14,940
Reckless	57	43
Operating under influence of liquor	4,232	4,527
Using auto without authority	843	1,046
Endangering lives	2,531	2,781
Not stopping after causing injury	774	797
Without license	4,018	3,852
Without registration certificate	1,490	1,302
Unregistered vehicle	479	370
Improper display or no register number	391	268
Refusing to stop on signal	433	503
Unlighted lamps	1,495	1,649
No signal	75	34
Dazzling lights	—	1
Operating within 8 feet of street car	287	244
Violation of Metropolitan Park Rules	239	1,393
Operating after suspension or revocation of license	586	534
Larceny	244	191
Manslaughter	—	1
Miscellaneous	2,314	3,100
Lenses not approved	128	68
No reflector	1	2
Racing	19	6
Operating after revocation of registration certificate	11	25
No rear light	313	372
Not displaying lights	181	156
Violation spot-light law	1	2
Improper lights	260	559
Brakes not as required by law	259	435
Violation of Insurance Law	479	449
Not slowing down approaching pedestrian	211	36
Not slowing down at intersecting way	6,507	5,472
Violation law of road	1,640	1,159
Perjury	—	—
Making false statements on license application, falsely impersonating or conspiring to obtain a license	128	90
Loaning license to another	21	5
Allowing intoxicated person to operate	3	13
No windshield cleaner	—	1
Attempted larceny	27	22
Totals	42,052	46,448

USED CAR SECTION

(Motor Vehicle Identification)

The Used Car Section indexes cars reported stolen, lists the sales of used cars, investigates the history of cars sold bearing obliterated, defaced or changed engine and makers' numbers, and advises the owners of cars registered under the incorrect engine and makers' numbers where to find the correct numbers on the cars.

The work of this section is summarized in the following tables: —

<i>Dealers</i>		
	1928	1929
Total number of first class dealers reporting	1,338	1,304
Total number of second and third class dealers reporting	458	450
Total number making reports to this office	1,796	1,754
<i>Reports</i>		
Approximate number of individual reports received daily	300	450
Approximate number of dealers' reports received daily	1,000	1,500
<i>Motor Vehicles Stolen</i>		
Number stolen in Boston	4,202	4,112
Number stolen in Massachusetts (including Boston)	7,662	7,850
Number of stolen cars reported from various sources throughout the country, including Massachusetts	17,907	21,194
Number recovered through information furnished by this office	302	345
<i>Engine and Serial Numbers</i>		
Engine numbers assigned to cars	77	65
Certificates issued authorizing the replacement of engine numbers	1,402	1,474
Certificates issued authorizing the replacement of serial numbers	2,610	2,223
Certificates issued authorizing the replacement of both engine and serial numbers	89	75
Total number of authorization certificates issued	4,101	3,772

EASTERN CONFERENCE OF MOTOR VEHICLE ADMINISTRATORS

Representatives of the Department attended meetings of the Eastern Conference of Motor Vehicle Administrators in January at Hartford, Connecticut; in April at New York City; and in September at Toronto, Canada. It has now been decided to hold but two regular meetings of the Conference in each year instead of four meetings.

ANALYSIS OF RECEIPTS

The fees received for the year 1929, together with the number of certificates of registration issued in each classification and the number of licenses granted, etc., are shown in the following table: —

Certificates of registration:			
Passenger cars (including taxicabs)	903,648	\$2,857,187	25
Commercial cars	113,268	1,198,678	75
Busses	1,988	69,912	50
Trailers	556	24,309	75
Motor cycles	6,168	8,768	50
Manufacturers or dealers (including repairers)	3,094	9,283	00
Manufacturers or dealers, additional cars (including repairers)	19,546	58,430	50
Licenses to operate:			
Original licenses	127,432 at \$2 00	—	254,864 00
Renewal licenses	816,906 at \$2 00	—	1,633,812 00
Examinations	137,307 at \$2 00	\$274,614	
Re-examinations	46,770 at \$1 00	46,770	
Total examinations	184,077		321,384 00

Copies of certificates and licenses furnished	47,242 at \$1 00	\$47,242 00
Duplicate number plates furnished	10,060 at \$1 00	10,060 00
Lens approval applications	11 at \$50 00	550 00
Miscellaneous receipts, auto lists, process fees, etc.		4,372 47
Total amount of fees		\$6,498,854 72
Motor vehicle fees rebated (deducted)		89,994 38
Net fees		\$6,408,860 34
Court fines received by the Treasurer and Receiver-General		708,864 40
Total receipts credited Highway Fund account, 1929		\$7,117,724 74

EXPENSES OF THE REGISTRY OF MOTOR VEHICLES

The cost of running the Registry of Motor Vehicles for the year 1929 was \$1,-342,815.09, which was 20.9 per cent of the net fees collected. This cost, deducted from the receipts for the year, left the sum of \$5,774,909.65 available for legislative appropriation for highway work.

ANALYSIS OF EXPENDITURES FOR 1929

Personal services:		
Regular payroll	\$787,070 15	
Overtime	21,488 21	
		\$808,558 36
Supplies:		
Books, maps, etc.	\$447 07	
Typewriter supplies	3,631 15	
Adding machine repairs and supplies	49 39	
Other supplies	2,761 90	
Stationery	23,710 88	
Typewriter repairs	106 15	
Other repairs	691 21	
		31,397 75
Equipment:		
Accounting and sorting machines	\$1,490 95	
Adding machines	415 76	
Miscellaneous equipment	833 71	
Other machines	1,311 38	
Typewriter machines	4,607 32	
		8,659 12
Furniture:		
Chairs	\$383 47	
Desks	1,020 18	
Files	3,360 15	
Miscellaneous	804 15	
		5,567 95
Travel:		
Employees	\$35,299 00	
Automobiles (owned by employees)	117,205 70	
Automobiles (owned by state)	869 78	
Other travelling expenses	3,755 45	
		157,129 93
Other services and expenses:		
Expressage	\$2,040 85	
Postage	60,671 02	
Printing	9,624 34	
Other reports	1,969 40	
Lithographing	3,279 34	
Telephone	5,993 40	

Premium on bonds of employees	\$372 62	
Rent	24,000 00	
Water and ice	1,372 85	
Cleaning and janitor services	1,260 00	
Towels	856 70	
Soap	58 84	
	<hr/>	\$111,499 36
Special services (labor)	\$308 80	
	<hr/>	308 80
Other expenses as listed below:		
Sundries	\$295 87	
Number plates	166,435 56	
Auto lists	2,500 00	
News clipping expenses	355 00	
Uniforms for inspectors	8,123 84	
Aviation expenses	4,442 51	
Printing	115 55	
Headlight expenses	817 00	
Temporary branch during rush	357 48	
	<hr/>	183,442 81
<i>Branch Office Expenses</i>		
Equipment:		
Lettering and signs	\$249 90	
Office equipment	1,540 86	
Erection of counter	2,544 73	
	<hr/>	4,335 49
Travel:		
Travelling expenses	\$91 04	
Express service to bank	360 00	
	<hr/>	451 04
Other services and expenses:		
Cleaning and janitor services	\$2,439 25	
Expressage	2,330 56	
Fuel	341 20	
Lighting	1,091 37	
Miscellaneous	473 87	
Rent	16,216 72	
Telephone	5,418 37	
Towels	278 35	
Water and ice	350 12	
Special services (labor)	908 32	
	<hr/>	29,848 13
<i>Publicity for Safety Work</i>		
Engraved cups for prizes	\$32 00	
Labels	179 89	
Personal services	114 25	
Postage	802 12	
Posters	299 36	
Sundries	160 58	
Travel	28 15	
	<hr/>	1,616 35
		<hr/>
		\$1,342,815 09
Personal services		\$808,558 36
Expenses		532,640 38
Publicity for safety work		1,616 35
		<hr/>
Total expenses		\$1,342,815 09

RELATING TO WATERWAYS AND PUBLIC LANDS—BOSTON HARBOR.**THE COMMONWEALTH FLATS AT SOUTH BOSTON***Commonwealth Pier No. 5*

In addition to the usual work of repairs and maintenance during the year the offices and rooms for a part of the engineering force of the Department have been completed and are now in use, and a room on the west side of the second floor has been built and equipped for a restaurant.

Work under contract of Oct. 23, 1928, with the George W. Nicoll Company, Inc., for building engineering offices, was completed Feb. 21, 1929, at a contract cost of \$68,163.58. By this contract offices and rooms were provided for the use of a part of the engineering force of the Department, two offices and a baggage room for the steamship companies, and bridges on the second floor of the pier were rebuilt to connect the west shed with the passenger shed.

The room used as a restaurant on the second floor mezzanine on the east side of the pier was found quite inadequate to serve the increased number of employees of the Department now transferred to the Pier. To provide better accommodation a contract was made with Carl S. Helrich on Apr. 23, 1929, for building a room for a restaurant on the west side of the second floor. This work included the construction of the room for the restaurant and a kitchen with light, heat and cooking facilities, the renovation of the room formerly used as a restaurant, the removal of the kitchen equipment and the preparation of the space for offices for use by the Registry of Motor Vehicles. On Nov. 15, 1929, this work was completed at a contract cost of \$13,577.41. The restaurant is now being operated by the Waldorf System, Inc.

Under contract of Jan. 25, 1929, a motor generator set for use in connection with a new room for blue printing was furnished and installed at a cost of \$1,832.10. This work was completed Mar. 13, 1929.

As the service pipe supplying water to the Pier was not large enough to meet the increased needs a contract was made on Mar. 5, 1929, with M. DeSisto Company for furnishing and laying about 192 linear feet of 6-inch cast-iron pipe from the water main in Northern Avenue to the service pipe on the pier. This work was completed Apr. 13, 1929, at a contract cost of \$2,596.40. The necessary connection with the water main in Northern Avenue was made by the city of Boston.

Additional heating equipment and sprinklers in the passenger quarters and locker rooms were provided under contract of Apr. 2, 1929, with Pierce and Cox at a contract cost of \$1,878. The work was completed May 7, 1929.

Certain necessary cleaning and painting of offices and corridors was completed June 22, 1929, under a contract of Apr. 16, 1929, with Thomas J. Walsh, at a contract cost of \$5,500.

Under a contract of May 7, 1929, with Maurice M. Devine broken lights of glass were replaced on the outer sides and end of the pier shed. This work was completed June 11, 1929, at a contract cost of \$1,044.20, for a part of which the Commonwealth was reimbursed by the steamship companies.

A contract was made on Oct. 22, 1929, with Maurice M. Devine for building eight movable wooden bridges, over the railroad tracks in the track pits, for connecting the east and west sheds with the center shed. This work is now in progress.

Work has not yet begun under contract of Nov. 27, 1929, with William H. Ellis and Son Company, for making repairs to the timber platforms at the pier.

On Nov. 27, 1929, a contract was made with Reynolds Bros., Inc., for furnishing and laying a two-inch wearing surface of bitulithic pavement on portions of the present floor of the pier. The larger part of the work to be done is the repaving of a portion of the driveway on the second floor of the west shed. No work has been done under this contract.

Provision is made for setting additional valves and indicator posts on the existing fresh water and fire service mains of the pier, by contract made Nov. 27, with M. DeSisto Company for the lump sum of \$1,050, but no work has as yet been done.

Miscellaneous work has been carried on during the year, including repairs to

iron ladders, timber platforms, fender logs, vacuum pumps, roofs, Kinnear and Ogden doors, to the heating system and to the masonry work of the boilers at the heating plant.

Ramp and D Street

On Nov. 27, 1929, a contract was made with A. DeStefano and Sons, Inc., for relaying the present granite blocks on a concrete base, resetting the curbing and relaying the brick sidewalks over the solid filled portion of the ramp connecting the Viaduct with D Street, and over that portion of D Street between the ramp and Northern Avenue. Work under this contract has not yet begun.

Development of Land South of Summer Street

During the year the seven sections in Storehouse No. 1 on E Street have been occupied by the Wiggin Terminals, Inc. Since July, this Company has used also sections J and K of Storehouse No. 2 on D Street. Section H of this warehouse was leased on May 7, 1929, to the Economy Grocery Stores Corporation for a term of five years from June 1, 1929. The remaining sections continue to be used by the Department.

On Feb. 19, 1929, a contract was made with Hill and Delaney to make repairs to portions of the wooden platforms on the easterly side of Storehouse No. 1 on E Street, and on the westerly side of Storehouse No. 2 on D Street. This work was completed Mar. 20, 1929, at a contract cost of \$3,826.61.

On Sept. 3, 1929, a contract was made with the George W. Nicoll Company, Inc., for the removal and construction of about 60 linear feet of platform on the D Street side, and the reconstruction of about 140 linear feet of platform on the track side of Section H, and repairs to other platforms and floors of Sections J and K of the Storehouse on D Street. This work was completed Nov. 26, 1929, at a contract cost of \$2,488.89.

A contract with Maurice M. Devine was made on Nov. 27, 1929, for placing a cement plaster surfacing one-half inch thick on the tile wall of sections H, J, and K of Storehouse No. 2 on D Street. Work has not yet begun under this contract.

Other miscellaneous repairs have been made this year to both Storehouses. The work has consisted chiefly of waterproofing parts of the roof, removing certain partitions, and making repairs to the fire sprinkler system.

Industrial Tracks of the Commonwealth

The repaving by the City of Boston of C Street on a concrete base from Summer Street to East First Street and the paving of D Street 50 feet wide with granite blocks on a concrete base from Claflin Street to East First Street, made certain changes in the tracks necessary. The railroad track crossing C Street and the tracks in Cypher Street at the intersection of C Street, were taken up and replaced by 100-pound rails at the grade established for the repaving of C Street. The rails in the Cypher Street tracks at the intersection with D Street were also removed and replaced by 141-pound girder rail, at the grade established by the paving of D Street.

General maintenance work upon the industrial tracks has been carried on during the year, chiefly in the replacing of old ties by new creosoted ties.

Land on Northern Avenue

On May 7, 1929, a parcel of land on the easterly corner of the intersection of the private way in extension of B Street with Northern Avenue was leased to the City Lease and Building Corporation at a rental of \$8,700 a year, for a term of twenty years, with an option of renewal for a further period of twenty years at a rental of five per cent of the fair value of said land as of April, 1949. The area leased contains 58,179 square feet. This lease was later assigned to the Massachusetts Chain Store Terminals, Inc.

THE COMMONWEALTH FLATS AT EAST BOSTON

Aircraft Landing Field

The lease to the War Department under date of June 30, 1922, was renewed to June 30, 1930, in accordance with the terms of a supplementary agreement

made Dec. 27, 1926, extending the renewal option to June 30, 1937, by yearly renewals.

The area containing approximately 1,479,000 square feet, adjacent to and easterly of the landing field, remains under lease of June 16, 1924, to the U. S. Navy Department. This lease gives to the Lessor the option of extending the period of occupancy by annual renewals to June 30, 1932.

The City of Boston under the lease of Aug. 10, 1928, authorized by chapter 64 of the Resolves of that year, continues to occupy an area of approximately 5,717,000 square feet for use as an Airport.

By chapter 24 of the Resolves of 1929, the Department was authorized to move and relocate two hangars and other buildings of the Massachusetts National Guard, at the Airport. On Sept. 4, 1929, a contract for this work was made with John Cavanagh and Sons Building Moving Company. The work was completed Nov. 20, 1929, at a contract cost of \$18,411.44. On Nov. 26, 1929, a contract was made with Hill and Delaney for miscellaneous work, consisting largely of reconstruction of rooms, and of making the necessary plumbing, sewer and heating connections necessitated by the moving of the buildings. This work is now in progress.

Dredging and Filling at East Boston

No contract for dredging and filling has been in force at East Boston since the completion on Dec. 24, 1923, of that with the Atlantic, Gulf and Pacific Company. Between that date and Nov. 30, 1929, approximately 1,700,000 cubic yards of material dredged from various locations in the harbor by dredging companies employed chiefly upon private work have been deposited in the receiving basin. During the year ending Nov. 30, 1929, about 140,000 cubic yards were deposited upon the flats northerly of Governor's Island.

The Commonwealth has reclaimed at East Boston about 150 acres of land.

Commonwealth Pier No. 1, East Boston

During the year the east and west docks of the pier have been used by the Eastern Steamship Lines, Inc., for their steamers not in service.

No major repairs to the pier have been needed this year.

AREAS IN TIDE WATER CEDED TO THE FEDERAL GOVERNMENT

By two deeds of August 20, 1929, the Department conveyed to the Superintendent of Lighthouses two tracts of tide water land of the Commonwealth in Weymouth Fore River to be used for the erection and maintenance of lights as aids to navigation. One of these areas is located at Harrys Rock Light No. 2 in the town of Hull, and one at Fore River Channel Light No. 4 in the town of Weymouth.

HARBOR LINES

New harbor lines have been established during the year on the northerly side of Mystic River in Everett and across Fort Point Channel in Boston.

Chapter 228 of the Acts of 1929 fixes a new harbor line in Mystic River to coincide with the present U.S. pierhead and bulkhead line and to extend easterly from a point near Malden Bridge to the westerly side of the mouth of Island End River. This chapter abolishes the harbor lines established in this part of the river in 1856.

Chapter 278 of the Acts of 1929 fixes a new harbor line across Fort Point Channel just below Dorchester Avenue Bridge, and abolishes all previous harbor lines in the channel above the new line and in South Bay.

SAVIN HILL BAY AND DORCHESTER BAY

By chapter 317 of the Acts of 1929, the Department of Public Works was authorized and directed to do certain dredging in Savin Hill Bay and Dorchester Bay.

On July 16, 1929, a contract was made with the Trimount Dredging Company to redredge the Commercial Point Channel 100 feet wide and approximately 2,400 feet long to a depth of 12 feet at mean low water; to dredge a channel from the Dorchester Yacht Club to the Commercial Point channel 50

feet wide and approximately 800 feet long to a depth of 6 feet at mean low water, and to dredge approximately 1,000,000 square feet of flats in Savin Hill Bay to a depth of 3 feet at mean low water.

The contract prices for this dredging are: for dredging channels and disposing of the dredged material on the shore, 40 cents per cubic yard measured *in situ*; for dredging flats and disposing of the dredged material on the shore, 49 cents per cubic yard measured *in situ*; for removing and disposing of boulders, \$18 per cubic yard. This dredging is now in progress.

From the appropriation of \$147,500 made by the Legislature the amount of \$28,125 is to be paid from the Port of Boston receipts, the remainder is to be considered a part of the cost of the Old Colony Boulevard and is to be divided, so that \$59,687.50 is paid from the Highway Fund and an equal amount assessed upon the cities and towns of the Metropolitan District.

TOWN RIVER, QUINCY

Hearing was held Jan. 30, 1929, on the petition of the Mayor of Quincy for dredging in Town River from a point nearly opposite property of the Baker Yacht Basin, Inc., to the northerly property line of the Quincy Lumber Company.

On Sept 17, 1929, a contract was made with the Bay State Dredging and Contracting Company to dredge to a depth of not less than 8 feet at mean low water, a channel 60 feet wide on the bottom and approximately 5,000 feet long. The contract prices are: for dredging the channel and disposing of the dredged material, 49 cents per cubic yard, scow measurement; for removing and disposing of boulders, \$20 per cubic yard. Toward the cost of this work a contribution of \$14,750 has been made by the city of Quincy. This dredging is now in progress.

Amount expended during the year, \$15,777.74. Total expenditure to Dec. 1, 1929, \$15,777.74.

WOLLASTON CHANNEL, QUINCY

Hearing was held Jan. 30, 1929, upon the petition of Edward G. Morris for dredging the channel to the Wollaston and Squantum Yacht Clubs.

On May 28, 1929, a contract was made with the Bay State Dredging and Contracting Company to dredge to a depth of not less than 6 feet at mean low water a basin, approximately 100 feet wide and 500 feet long, and a connecting channel approximately 1,800 feet long and 70 feet wide, in the vicinity of the Wollaston and Squantum Yacht Clubs at Wollaston Beach, Quincy. The contract prices for this work were: for dredging channel and basin and disposing of the dredged material, 55 cents per cubic yard, scow measurement; for removing and disposing of boulders, \$20 per cubic yard. This dredging was completed June 25, 1929, at a contract cost of \$16,564.35. Toward this cost the Wollaston and Squantum Yacht Clubs contributed \$150 and the city of Quincy, \$4,000.

Amount expended during the year, \$16,600. Total expenditure to Dec. 1, 1929, \$16,600.

RIVERS, HARBORS, TIDE WATERS AND FORESHORES OUTSIDE OF BOSTON HARBOR

For the improvement of rivers, harbors, tide waters and foreshores outside of Boston Harbor, in accordance with the provisions of section 11, chapter 91, General Laws, an appropriation of \$100,000 was made during 1929, with the following condition:

"provided, that all expenditures made for the protection of shores shall be upon condition that at least fifty per cent of the cost is covered by contributions from municipalities or other organizations and individuals and that in the case of dredging channels for harbor improvements at least twenty-five per cent of the cost shall be so covered."

An appropriation of \$40,000 was also available during the year for the maintenance of structures, and for repairing damages along the coast line or river

banks of the Commonwealth, and for the removal of wrecks and other obstructions from the tide waters and great ponds.

Petitions were filed with the Department during the year for surveys and improvements in the following localities: Allen's Harbor, Harwich; Annisquam River, Gloucester; Bass River, Dennis and Yarmouth; Connecticut River, Holyoke; Connecticut River, West Springfield; Duxbury Harbor, Duxbury; Falmouth Inner Harbor, West Falmouth Harbor, Wild Harbor, Waquoit Bay, Falmouth; Gloucester Inner Harbor, Green Harbor, Marshfield; Herring River, Harwich; Manchester Harbor; Nobscusset Harbor, Dennis; Plymouth Harbor, Plymouth; Quisset Harbor, Falmouth; Scituate Harbor, Scituate; Skaket Channel, Brewster; Vineyard Haven Harbor.

Public hearings have been held, certain estimates of cost made, but no work has been done to carry out the improvements petitioned for in Allen's Harbor, Harwich; Connecticut River, Holyoke; Connecticut River, West Springfield; Duxbury Harbor, Duxbury; Falmouth Inner Harbor, West Falmouth Harbor, Wild Harbor, Waquoit Bay, Falmouth; Gloucester Inner Harbor; Green Harbor, Marshfield; Herring River, Harwich; Nobscusset Harbor, Dennis; Plymouth Harbor, Plymouth; Quisset Harbor, Falmouth; Skaket Channel, Brewster; Vineyard Haven Harbor.

Information relating to work previously done in various rivers and harbors of the Commonwealth may be found in the annual reports of the Board of Harbor and Land Commissioners, the Commission on Waterways and Public Lands, the Division of Waterways and Public Lands of the Department of Public Works, and in the tables of the Appendix accompanying the present report. These tables show localities, character of work, appropriations and expenditures by the Commonwealth, and certain appropriations and expenditures by the Federal Government.

An account of the work done during the year 1929, for the improvement of rivers, harbors, tide waters and foreshores outside of Boston Harbor, follows.

ALLEN'S HARBOR, HARWICH

During the year the erosion of the shore easterly of the east jetty at Allen's Harbor became so serious that protective measures were imperative. Under letter contracts with the Owen W. Duffy Company the timber fence was repaired, extended 100 feet farther to the east and reenforced by riprap along the front. The work was completed Sept. 17, 1929, at a contract cost of \$2,338.90. Toward the cost of this work a contribution of \$600 was made by the town of Harwich.

Amount expended during the year, \$3,272.39. Total expenditure to Dec. 1, 1929, \$26,465.72.

ANNISQUAM RIVER, GLOUCESTER

Hearing was held Jan. 30, 1929, upon the petition of the Gloucester Maritime Association, and others, for redredging Annisquam River to a depth of 8 feet at mean low water.

A survey of the river showed a prevailing depth of about 5 feet at mean low water. On June 11, 1929, a contract was made with the Bay State Dredging and Contracting Company to dredge the existing channel to a depth of 8 feet at mean low water from deep water north of Wolf Hill to a point just south of Blynman Bridge, a distance of approximately 8,650 feet. The contract prices for this dredging were: for dredging and disposing of the dredged material at sea, 51 cents per cubic yard, scow measurement; for removing and disposing of boulders, \$20 per cubic yard. Work under this contract was completed Sept. 24, 1929, at a contract cost of \$26,035.88. Toward the cost of this dredging a contribution of \$7,000 was made by the city of Gloucester.

Amount expended during the year, \$29,016.99. Total expenditure to Dec. 1, 1929, \$170,975.20.

BASS RIVER, DENNIS AND YARMOUTH

Hearing was held Jan. 30, 1929, upon the petition of the Selectmen of Dennis and Yarmouth for dredging in Bass River and for repairing the jetties at the entrance.

On Nov. 19, 1929, a contract was made with the Bay State Dredging and Con-

tracting Company, for the construction of an extension to the easterly jetty at the entrance to Bass River, at a contract price of \$6.15 per ton of 2,000 pounds for furnishing and placing all stone riprap and chips in the jetty. This extension is to be about 600 feet long, of heavy stone riprap with a core of small stone chips. Work has not yet begun under this contract. No contract has been made for the dredging requested.

Amount expended during the year, \$1,570.53. Total expenditure to Dec. 1, 1929, \$116,961.23.

BRANT ROCK, MARSHFIELD

The work done in 1927 and 1928 in placing concrete footing under a portion of the sea wall at Brant Rock was continued under letter contract of Apr. 23, 1929, with Frank H. Barry for placing 125 feet of such footing. The work was completed June 12, 1929, at a contract cost of \$971.37.

Amount expended during the year, \$1,153.97.

CONNECTICUT RIVER

Hadley and Northampton.—A survey has been made this year of the section of the Connecticut River, about 12,000 feet long, extending from the Northampton-Hadley highway bridge to Sheppard's Island in Hadley and Northampton. Serious erosion has taken place during the past thirty years in this section, particularly at a point just north of the bend in the river above Sheppard's Island. A part of the purpose of the survey was to secure information from which a model could be made by the Massachusetts Institute of Technology and experiments carried on to determine the most feasible method of checking this erosion. The Institute will assume the entire cost of the model and the experiments and will make the results available for the use of the Department.

Amount expended for survey work during the year, \$465.48.

Northfield.—The attention of the Department was called in the spring to the erosion on the westerly bank of Connecticut River north of the Mt. Hermon Bridge, progressing at a rate that threatened to damage the westerly abutment of the highway bridge.

A contract was made on May 21, 1929, with the Kelleher Corporation to furnish and place about 1,000 tons of stone riprap on the west bank of Connecticut River, north of this bridge, at a contract price of \$2.40 for each ton of riprap furnished in place. This work of protecting with stone riprap about 400 linear feet of the west bank of the river, was completed July 21, 1929, at a contract cost of \$2,888.82.

Amount expended during the year, \$2,934.81. Total expenditure to Dec. 1, 1929, \$9,028.90.

COTUIT HARBOR, BARNSTABLE

Hearing was held Jan. 30, 1929, upon the petition of the Selectmen of Barnstable for dredging the entrance to Cotuit Harbor in Barnstable.

On July 30, 1929, a contract was made with William E. Burke to redredge a length of about 1,600 feet of the entrance channel to a depth of 7 feet at mean low water with a bottom width of 100 feet, and to remove a shoal. The contract prices for the work are: for dredging and disposing of the dredged material at sea, 65 cents per cubic yard, scow measurement; for removing and disposing of boulders, \$15 per cubic yard. The work was completed Nov. 27, 1929, at a contract cost of \$10,340.85. Toward the cost of the dredging a contribution of \$5,000 was made by the town of Barnstable.

Amount expended during the year, \$10,993. Total expenditure to Dec. 1, 1929, \$81,303.99.

COTUIT SHORE PROTECTION, BARNSTABLE

The timber bulkhead built by the Commonwealth for the protection of a part of the shore at Cotuit was destroyed by severe storms during the year. In August a complaint was received that sections of the structure were floating in tide water and were likely to become a menace to navigation. A letter contract was made with Louis A. Byrne for the removal of the damaged portion of the bulkhead for the lump sum of \$289. This work was completed Oct. 20, 1929.

Amount expended during the year, \$245.65.

FALMOUTH SHORE PROTECTION

An inspection in the early spring found the riprap placed last year in front of the sea wall at Falmouth Heights, partially dislodged and scattered upon the beach. A letter contract was made with George W. Starbuck to replace this stone for the lump sum of \$254. This work was completed Apr. 10, 1929.

Amount expended during the year, \$254. Total expenditure to Dec. 1, 1929, \$57,963.13.

GUN ROCK — GREEN HILL SEA WALL, HULL

In October a request was received from residents in the vicinity for repairs to the sea wall built by the Commonwealth between Gun Rock and Green Hill. An examination of the structure showed the main sea wall in good condition, but the spur jetties in front seriously damaged and the beach eroded to a considerable extent.

A contract was made on Nov. 19, 1929, with Bradford Weston for the construction of three concrete spur jetties in front of this sea wall at a contract price of \$15 for each cubic yard of concrete in place in the completed work, including all excavation, backfilling and incidental work. No work has begun under this contract.

No expenditure during the year. Total expenditure to Dec. 1, 1929, \$37,906.21.

HOOSIC RIVER

Adams, Cheshire, Clarksburg, North Adams and Williamstown

In accordance with the provisions of chapter 28 of the Resolves of 1928, the Department made a special report to the Legislature, House No. 111 of 1929, relative to protecting the cities and towns in the Hoosic and Connecticut Valleys from flood damage. By chapter 36 of the Resolves of 1929 the Department was directed to make a further survey and study of this matter.

During the year a survey has been made of a large part of the south branch of the Hoosic River through the town of Adams and an examination made of this river in other towns of the Valley. A special report has been prepared for presentation to the Legislature of 1930, as required by the Resolve.

North Adams

At the beginning of the year work was in progress under contract of Oct. 16, 1928, with Warner Bros. and Goodwin, Inc., for excavation and the removal of debris to remedy conditions left by the flood in Hoosic River, North Adams. In the spring the work was extended to provide for additional excavation in the river just below a thickly settled part of the city. The whole work, under the provisions of chapter 310 of the Acts of 1928, was completed May 18, 1929, at a contract cost of \$17,213.36.

Amount expended during the year, \$10,868.40. Total expenditure to Dec. 1, 1929, \$21,271.67.

LEWIS BAY, BARNSTABLE AND YARMOUTH

The work of dredging a channel under contract of Oct. 23, 1928, with the Bay State Dredging and Contracting Company, was completed Jan. 8, 1929, at a contract cost of \$34,364.72. From the 9-foot contour in the outer bay to the town wharf a channel 9 feet deep at mean low water has been dredged to widths varying from 75 feet to 100 feet on the bottom, with increased width at the turns. Toward the cost of this work a contribution of \$1,500 was made by the town of Yarmouth and of \$17,309.29 by the town of Barnstable.

Amount expended during the year, \$23,874.51. Total expenditure to Dec. 1, 1929, \$66,631.28.

MANCHESTER HARBOR, MANCHESTER

Hearing was held Jan. 30, 1929, upon the petition of the Selectmen of Manchester for the removal of Bow Bell Ledge, so called, in the entrance channel to Manchester Harbor. The dredging of a channel around this ledge in 1928 showed that the larger portion of the area is actually composed of boulders lying close together.

On Mar. 26, 1929, a contract was made with the Bay State Dredging and Con-

tracting Company for dredging three areas in Manchester Harbor, the area designated as "Bow Bell" in the entrance channel, to a depth of 8 feet at mean low water, and the other areas to a depth of 6 feet at mean low water. The contract prices were as follows: for dredging area known as Bow Bell Ledge and disposing of the dredged material, \$1.10 per cubic yard, scow measurement; for removing and disposing of boulders, \$20 per cubic yard; for dredging areas outside Bow Bell Ledge and disposing of dredged material, 49 cents per cubic yard, scow measurement. This dredging was completed June 4, 1929, at a contract cost of \$11,797.91. Toward the cost of the work a contribution of \$6,500 was made by the town of Manchester.

Under this contract the larger part of the area known as Bow Bell Ledge was removed. The survey made after the completion of the work showed above the 8-foot contour about 2,377 cubic yards of remaining material which cannot be removed without the use of explosives.

Amount expended during the year, \$13,298.52. Total expenditure to Dec. 1, 1929, \$163,776.57.

NEW BEDFORD HARBOR, NEW BEDFORD AND FAIRHAVEN

Harbor lines in New Bedford Harbor have been established by various acts of the Legislature beginning at a comparatively early date. Some difficulty has been found in determining the exact location of some of these lines, and confusion has resulted from the failure of the State lines at many points to coincide with the lines established by the U. S. War Department in this harbor. The matter was discussed at a hearing held by the U. S. Engineers at New Bedford and a suggestion adopted to attempt to fix a common Federal and State line.

After a survey by the U. S. War Department a Federal harbor line was established coinciding in part with certain of the State lines. The Department then recommended to the Legislature the adoption of the U. S. lines by the Commonwealth. Chapter 80 of the Acts of 1929 establishes the lines of the War Department as the State harbor lines. This action has resolved the difficulties of conflicting lines in this harbor.

NEW BEDFORD STATE PIER

The larger portion of this pier has been since September, 1927, under lease to the Lamport Manufacturing Supply Company, Inc.

The lease provides for the use by the Company of a specified portion of the pier for a period of ten years beginning Sept. 1, 1927, at a rental of \$6,000 per year for the first five years, and of \$10,000 per year for the five years following. The Company agrees by the terms of the lease to provide reasonable facilities for vessels desiring to use the present unenclosed area of the pier for water-borne commerce, as well as reasonable accommodation for loading and unloading cargo. The charges made for such uses of the pier are to be those established by the Department, effective since July 15, 1925.

During the year minor repairs have been made to the pier including jacking up the floor of a portion of the timber shed and the placing of new foundations underneath, repairs to the concrete chocks and the repainting of a large part of the outside of the pier.

Two transportation companies have occupied space this year in the Immigration Shed, the only building on the pier not included in the lease to the Lamport Manufacturing Supply Company, Inc.

Amount expended for operation and maintenance during the year, \$2,821.93.

Income during the year, \$8,272.75. Total expenditure for operation and maintenance to Dec. 1, 1929, \$50,714.09.

NOBSCUSSET HARBOR, DENNIS

Hearing was held Jan. 30, 1929, on the petition of the Selectmen for an additional barrier to prevent the movement of sand into the harbor.

A letter contract was made on June 18, 1929, with George W. Starbuck to build about 150 linear feet of timber fence and to place stone riprap around the outer end of the structure. This work was completed July 27, 1929, at a con-

tract cost of \$1,353.38. Toward this cost a contribution of \$750 was made by the town of Dennis.

Amount expended during the year, \$1,606.38. Total expenditure to Dec. 1, 1929, \$41,385.22.

OAK BLUFFS SHORE PROTECTION

Hearing was held Jan. 30, 1929, upon the petition of the Selectmen for protective work along the shore at the Highlands.

Examination of the locality showed that considerable erosion was taking place along this shore for a distance of about one-half mile and was undermining the highway to some extent.

A contract was made on July 2, 1929, with C. W. Blakeslee and Sons, Inc., for the construction of about 2,150 linear feet of creosoted timber bulkhead and 43 creosoted timber spur jetties, each 25 feet long, upon this shore. The contract prices for this work were: for furnishing all materials and constructing the main creosoted timber bulkhead, \$16 for each linear foot of completed bulkhead in place; for furnishing all materials and constructing the creosoted timber spur jetties, \$8 for each linear foot of completed spur jetty in place; for furnishing and placing all filling, \$2.70 for each cubic yard measured in place. This work was completed Oct. 28, 1929, at a contract cost of \$48,174.90. Toward the cost of the structure a contribution of \$25,000 was made by the town of Oak Bluffs.

After this work was completed a letter contract was made with Antonio White to place 820 cubic yards of additional filling back of the bulkhead for the lump sum of \$1,106. This work is now in progress.

Amount expended during the year, \$42,423.55. Total expenditure to Dec. 1, 1929, \$132,745.53.

COMMONWEALTH PROPERTY AT PLYMOUTH

The unexpended balance of the appropriation made in 1928 for the maintenance and repair of property at Plymouth acquired by the Pilgrim Tercentenary Commission and placed under the jurisdiction of the Department by vote of the Governor and Council on July 17, 1924, was used for the work necessary during the year.

A portion of the timber deck of the State Pier was replaced under an agreement of June 3, 1929, with George W. Starbuck, by which labor and equipment were furnished by the contractor, and material by the Commonwealth. The work was completed July 5, 1929, at a contract cost of \$929.48 for labor and equipment.

This year one caretaker has been employed permanently for the necessary work at the grounds and additional help has been secured as required.

Amount expended during the year, \$5,027.41. Total expenditure to Dec. 1, 1929, \$31,077.85.

PROVINCETOWN SHORE PROTECTION

Late in 1928 the attention of the Department was called to the serious erosion of the upland at Provincetown easterly of the end of the riprap placed along the State highway in 1924, 1926 and 1927. An examination showed the erosion proceeding for a considerable distance along the shore upon property privately owned.

It was decided in December to build as an experiment a section of wire fence upon this beach in order to observe the effect of the structure upon the continuance of erosion. A letter contract was made with George W. Starbuck to build about 72 linear feet of wire fencing along the shore. This work was completed Jan. 4, 1929, at a contract cost of \$149.76. Toward this cost a contribution of \$75 was made by the owners of the upland back of the fence. Up to the end of the present fiscal year the fence has been effective in checking erosion.

Amount expended during the year, \$149.76. Total expenditure to Dec. 1, 1929, \$28,559.87.

PROVINCETOWN TERCENTENARY COMMISSION

During the year the land at Provincetown acquired by the Provincetown Tercentenary Commission and placed under the control of the Department June 23,

1926, has been cared for from funds appropriated for the use of the Province Lands. One employee of the Department has been kept at work during the summer to maintain this park in proper condition.

SCITUATE HARBOR, SCITUATE

Hearing was held Jan. 30, 1929, upon the petition of the Selectmen for dredging an anchorage basin and removing shoals from the entrance channel at Scituate Harbor.

On Apr. 9, 1929, a contract was made with the Bay State Dredging and Contracting Company to dredge an anchorage basin along the north side of the entrance channel to a depth of 6 feet at mean low water, to remove certain shoals in the entrance channel to a depth of 8 feet at mean low water, and to remove shoals from a channel leading to the Scituate Yacht Club. The contract prices were: for dredging and disposing of material at sea, 54.8 cents per cubic yard, scow measurement; for removing and disposing of boulders, \$20 per cubic yard. The dredging was completed June 24, 1929, at a contract cost of \$38,995.60. Toward the cost of the work a contribution of \$20,000 was made by the town of Scituate. Under this contract the area of the anchorage basin in this harbor was increased about 4½ acres.

Amount expended during the year, \$40,362.67. Total expenditure to Dec. 1, 1929, \$165,648.78.

SCITUATE SEA WALLS

During the year minor repairs were found necessary to sea walls at North Scituate and to the breakwater at Lighthouse Point at the Sand Hills, on account of erosion from frost and from the action of the sea. Under a letter contract with Frank H. Barry for such repairs, the work was completed Nov. 27, 1929, at a contract cost of \$517.55.

Amount expended during the year, \$439.92.

SEAPUIT RIVER, BARNSTABLE

Work under contract of Sept. 4, 1928, with the Trimount Dredging Company was completed Jan. 7, 1929, at a contract cost of \$24,227.84. This dredging has provided a channel 40 feet wide on the bottom and 6 feet deep at mean low water from the 6-foot contour in the West Bay entrance channel to the 6-foot contour in Cotuit Harbor.

Amount expended during the year, \$9,304.87. Total expenditure to Dec. 1, 1929, \$25,088.55.

WAQUOIT BAY, FALMOUTH AND MASHPEE

Work under letter contract of Nov. 2, 1928, with John A. Davis for repairing the breakwater at the harbor entrance by placing concrete in bags at low places in the structure, was completed Dec. 7, 1928, at a contract cost of \$1,274.

Amount expended during the year, \$275.65. Total expenditure to Dec. 1, 1929, \$57,424.50.

WEST BAY, BARNSTABLE

Work under contract of Jan. 9, 1928, with the Wianno Dredge Company, Inc., was completed Aug. 17, 1929, at a contract cost of \$17,796.66.

Amount expended during the year, \$7,121.23. Total expenditure to Dec. 1, 1929, \$109,931.84.

WEST HARWICH SHORE PROTECTION

Work under letter contract of Nov. 20, 1928, with Louis A. Byrne for the construction of two sections of wire fence as an experiment in checking erosion along the shore was completed Dec. 8, 1928, at a contract cost of \$569.80.

Hearing was held Jan. 30, 1929, on the petition of Grace E. Phipps, and others, for protective work along the shore for a distance of about 3,000 feet where serious erosion has been proceeding for some years.

As the sections of wire fence built in 1928 appeared to be reducing the erosion, it was decided to extend this method of protection along the shore.

A contract was made on Oct. 29, 1929, with Edward E. Crowell and Isaiah Kelley to construct about 2,250 linear feet of wire fence extending along the beach at West Harwich with spur jetties 24 feet long and 54 feet apart extend-

ing at right angles to the fence, at the following contract prices: for furnishing materials and constructing the wire fence, including all excavation, back filling and the furnishing, placing and weighting of the seaweed and brush, and maintaining fence for one year, \$1.55 for each linear foot; for furnishing materials and constructing spur jetties, including all incidental work and maintenance for one year, \$1.55 for each linear foot. Work under this contract has not yet begun.

Amount expended during the year, \$1,009.30. Total expenditure to Dec. 1, 1929, \$13,493.41.

WINTHROP SHORE

Point Shirley Sea Wall.—For several years the sea wall at Point Shirley has shown gradual deterioration due to erosion by the sea, until at certain points the face of the wall was cut away to a depth of two feet.

On Apr. 2, 1929, a contract was made with the National Guniting Contracting Company to repair the face and top of the wall, with cement mortar placed by the guniting process. The contract prices for this work were: for all costs of transporting plant and men to the site of the work and back to the original starting point upon completion of the work, the lump sum of \$220; for furnishing all reinforcing steel, 13 cents for each square foot measured in place; for furnishing all cement, sand, water, power, equipment and all labor and materials required to perform the necessary chipping, cleaning and placing of the guniting, \$3.80 for each bag of cement used in the completed guniting work; for excavating a trench along the face of the wall, \$1 for each cubic yard measured in place. This work was completed Apr. 29, 1929, at a contract cost of \$1,925.82.

Amount expended during the year, \$2,046.22. Total expenditure to Dec. 1, 1929, \$97,343.71.

MISCELLANEOUS

GREAT PONDS

Jurisdiction over great ponds belonging to the Commonwealth was conferred upon the Board of Harbor and Land Commissioners by chapter 318, Acts of 1888. This act applies to ponds containing in their natural state ten or more acres of land. Authority to sell and convey or lease, subject to the approval of the Governor and Council, any of the islands owned by the State in great ponds was later given by chapter 379, Acts of 1904, now section 2, chapter 91, General Laws.

During the year the Department has considered matters relating to: Cedar Pond, Carver; Center Lake, Becket; Crystal Lake, Newton; Furnace Pond, Pembroke; Great Herring Pond, Plymouth; Gould Pond, Holland; Greenwater Pond, Becket; Hampton Ponds, Easthampton; Harts Pond, Chelmsford and Westford; Knop Pond, Groton; Lake Chaubunagungamaug, Webster; Lake Mascuppie or Tyngs Pond, Tyngsborough; Lake Quannapowitt, Wakefield; Lake Quinsigamond, Shrewsbury and Grafton; Lake Whalom, Lunenburg; Lake Winthrop, Holliston; Learned's Pond, Framingham; Little Alum Pond, Brimfield; Little Sandy Bottom Pond, Pembroke; Long Pond, Brewster and Harwich; Lovell's Pond, Barnstable; Maquan Pond, Hanson; Pontoosuc Lake, Pittsfield; Silver Lake, Pittsfield; Stockbridge Bowl, Stockbridge; Ward Pond, Ashburnham; Warner Lake, Greenfield; Wedge Pond, Winchester; Yokum Pond, Becket.

During the year, surveys of the following great ponds have been made:

Gould Pond or Lost Lake, Brimfield-Holland

Area at time of survey	14.69 acres
Area of natural pond	13.52 acres
Maximum depth	11.8 feet

Hart or Baptist Pond, Chelmsford and Westford

Area at time of survey	93.84 acres
Area of natural pond	80.87 acres

The area of this pond is divided between the two towns as follows:

86.83 acres in Chelmsford
7.01 acres in Westford
Maximum depth 22.0 feet

Wedge Pond, Winchester

Area at time of survey 24.38 acres
Area of natural pond 20.99 acres
Maximum depth 18.0 feet

Winthrop Pond, Holliston

Area of pond at high water line 101.08 acres
Area of natural pond 91.30 acres
Maximum depth 20.5 feet

These areas are exclusive of the areas of three islands within this pond which are owned by the Commonwealth, the areas of which at high water line are as follows:

Rat Island 0.56 acres
Berry Island 0.21 acres
Grape Island 0.45 acres

Amount expended during the year, \$1,728.57. Total expenditures, \$13,872.13.

ACCESS TO GREAT PONDS

During the year no petitions relative to public access to great ponds were filed in accordance with the provisions of chapter 453 of the Acts of 1923.

A special report under date of December 31, 1928, was made to the Legislature relative to acquiring a right of way for public access to Lake Chaubunagungamaug in the town of Webster. The report discusses three locations suggested for the public right of way to this pond and concludes:

“The Joint Board is of the opinion that any one of these three parcels of land above referred to would give the public adequate approach to the shores of this lake. While there are a number of amusement parks on the shores of this pond available for public use, the Board is of the opinion that at least one public right of way should be taken. Any one of the three locations referred to would give a satisfactory approach. The grade crossing at Union Point is a serious obstacle, but it is believed that during the summer months, when this location would be of use, arrangements should be made with the railroad to protect this crossing.

The Board believes that the approach should be acquired by purchase and not by lease, and recommends that the choice of the location be left to the local authorities subject to the approval of the Department.”

PROVINCE LANDS

The territory belonging to the Commonwealth known as the Province Lands at Provincetown comprises about 3,290 acres lying northerly and westerly of a line described in chapter 470, Acts of 1893. By the terms of this act the Board of Harbor and Land Commissioners was given general care and supervision of this area.

Reclamation work under the direction of a superintendent has been carried on since 1894. To check the movement of the sand the barren dunes are first covered with brush or planted with beach grass. The grass is pulled in bunches about two inches thick and transplanted in rows about 4 feet apart and 6 inches deep. The transplanted grass lives between three and four years. This work is followed and reinforced by the transplanting of trees and shrubs.

During the year work on these lands has been continued in accordance with these methods.. Five acres of sand dunes have been covered with brush and four acres of bayberry were transplanted to reinforce areas previously planted.

In addition 18,000 native pines on the sod have been transplanted and 180,000 seedlings of Scotch and Austrian pines planted.

During the year a section of State highway about $1\frac{1}{4}$ miles long was built over a portion of these lands to connect with a town road at the westerly end of Provincetown. This highway makes an excellent bathing beach accessible for public use.

The sum of \$164.40 has been paid into the State Treasury during the year from licenses issued for cultivating and picking cranberries on the bogs and for mowing meadows and from permits for occupying certain areas on these lands.

Under the provisions of chapter 77 of the Acts of 1864, certain upland and flats of the Province Lands were ceded to the Federal Government for the Long Point Military Reservation. In accordance with an Act of Congress approved June 7, 1926, about 525 acres of this property have been reconveyed to the Commonwealth. The portion returned to the State is an area known as Long Beach. The land consists of a sand ridge of varying width extending along the high water line, and of certain marsh lands north of the ridge. Under the provisions of section 2 of chapter 91 of the General Laws, the Department now exercises jurisdiction over this property.

Of the area originally granted the Federal Government has retained four parcels, one upon which the Wood End Light is located, one for the Coast Guard Station, and two for the range beacons used in testing U. S. Naval submarines. Over three of these parcels, however, the National Government provides that the Commonwealth shall have a right of way, not exceeding 100 feet in width, and the privilege of maintaining thereon a public highway, in a location subject to the approval of the Federal Government.

Amount expended during the year, \$5,000. Total expenditure to Dec. 1, 1929, \$126,072.28.

!CONSERVING AND EQUALIZING THE FLOW OF WATER IN RIVERS AND STREAMS

By chapter 359, Acts of 1909, chapter 564, Acts of 1912, and chapter 84, resolves of 1917, cooperation was established between the Commonwealth and the Water Resources Branch of the United States Geological Survey, so that results of work relating to the gauging of streams within the Commonwealth and other work of a similar character carried on by the said survey have been obtained for use by the Department and are available for other Departments of the Commonwealth. Toward the cost of this work the Department has paid during the year, \$4,000.

During the year the United States Geological Survey established two new gauging stations, one on the Connecticut River south of the Boston and Maine Railroad Bridge in Montague, and one at Gibbs Crossing on the Ware River in Ware. One third of the cost of these stations was paid by the Federal Government and two-thirds by the Metropolitan District Water Supply Commission. The stations will, however, be operated jointly by the U. S. Geological Survey and by this Department.

RE-ESTABLISHMENT OF CERTAIN TRIANGULATION STATIONS

By section 33, chapter 91, General Laws, the Department is authorized to make such surveys and to do such other work as may be required by any order of the Land Court, to re-establish and permanently mark certain triangulation stations previously established in connection with the topographical survey of the Commonwealth and the town boundary survey, which have been lost or destroyed, and to obtain the geographical positions of such new points and stations as may be required from time to time by the Court.

During the year the locations of the following triangulation stations were determined and permanently marked on the ground, and geographical positions furnished to the Land Court; 26 stations in Chatham; 5 stations at Cotuit in the town of Barnstable; 9 stations in Nantucket.

Amount expended during the year, \$1,000.

TOWN BOUNDARY LINES

Under the provisions of chapter 96 of the Acts of 1881, the courses of the boundary lines between adjacent cities and towns bordering upon the sea were

defined by the Harbor and Land Commissioners to the exterior line of the Commonwealth. During the year requests have been received from several towns for the establishment of permanent ranges on the land to determine the direction of the boundary line in tide water from the shore to the exterior line of the Commonwealth.

The demand for this work appears to be due largely to changes in the laws governing fishing and to fishing regulations making necessary the accurate determination of town boundary lines in tide water. It seems likely that the need for the establishment of these ranges will increase in the future. Considerable work is, of course, involved in the fixing of these points. This year boundary lines in tide water have been determined in the towns of Chatham, Orleans, Eastham and Wellfleet.

Certain work has also been done in reproducing the locations of several town boundary monuments lost or destroyed, and in re-establishing by this means portions of town boundary lines in Eastham, Wellfleet, Milton, Grafton, Mendon, Shrewsbury and Quincy.

LICENSES AND PERMITS

During the year 105 licenses were granted for work to be done in tide waters, great ponds, Connecticut River and Merrimack River, and 104 permits for miscellaneous purposes. The Department also approved 111 permits granted by cities and towns for the construction and maintenance of fish weirs in tide water.

DETAILS OF EXPENDITURES FOR WATERWAYS

FOR DEVELOPMENT AND IMPROVEMENT IN BOSTON HARBOR, 1859-1929, INCL.

Payments	To Nov. 30, 1928	1929	Total
Boston Harbor	\$1,718,560 62 ¹		
Dredging and filling		\$910 21	
Special appropriations		11,792 60	\$1,731,263 43
Commonwealth Flats, East Boston	3,071,332 79 ²		
Special appropriations		16,182 32	3,087,515 11
Commonwealth Flats, So. Boston	4,872,087 79		
Streets, piers and railroads		35 90	4,872,123 69
Castle Island	735,155 95		
Dredging and filling		1,390 50	
Castle Island sea wall repairs		837 74	737,384 19
Commonwealth Pier No. 5, South Boston			
Construction	4,014,790 45	—	4,014,790 45
Operation and supervision	1,205,637 83	100,669 70	1,306,307 53
Commonwealth Pier No. 1, East Boston			
Construction	1,199,703 23		1,199,703 23
Operation and Maintenance	87,734 72	7,709 98	95,444 70
Commonwealth Pier No. 6	1,092,149 06	—	1,092,149 06
Dry Dock	3,169,651 15 ³	—	3,169,651 15
Hayward Creek	385,959 61 ⁴	—	385,959 61
Mystic River	428,463 41 ⁵	—	428,463 41
Malden River	32,268 70 ⁶	—	32,268 70
Chelsea Creek	60,519 88	—	60,519 88
Commercial Point, Dorchester Bay	53,213 10	—	53,213 10
Maintenance of Property of Commonwealth	663,474 14		
Maintenance of property		128,080 34	791,554 48
	<hr/>	<hr/>	<hr/>
	\$22,790,702 43	\$267,609 29	\$23,058,311 72

¹ Contribution by Quincy Market Cold Storage and Warehouse Corporation, \$4,000.00.

² Appropriated by City of Boston, \$10,000.00.

³ \$17,788.73 additional paid by State Treasurer from Development of Port of Boston Loan Sinking Fund.

⁴ Contributions by Massachusetts Oil Refining Company and Bethlehem Ship Building Corporation, \$38,600.00; paid by State Treasurer for land taking, \$3,725.27.

⁵ Contribution by Merrimac Chemical Company, \$19,182.50; contribution by Beacon Oil Company, \$50,000.00.

⁶ Expended by United States Government, \$31,000.00; contribution by Standard Oil Company of New York, \$600.00.

EXPENDITURES AND CONTRIBUTIONS FOR IMPROVEMENT OF SMALL HARBORS AND CHANNELS WITHIN BOSTON HARBOR, UNDER THE DIRECTION OF THE DEPARTMENT OF PUBLIC WORKS AND ITS PREDECESSORS, FROM 1893 TO 1929, INCLUSIVE

<i>Locality and Character of Work</i>	Contributions by	
	Municipality or Others	Total Expenditure
Cottage Park Channel, Winthrop, dredging	\$1,000 00	\$22,012 08
Dorchester, Easterly Shore, dredging and survey	1,000 00	128,948 71
Harbor View, dredging	—	146 00
Hingham Harbor, dredging	6,500 00	41,595 12
Hough's Neck Channel, Quincy, dredging	3,500 00	29,856 28
Island End River, Everett, survey	—	264 10
Jeffries Point Channel, dredging	—	3,009 11
Mystic River (near Lawrence and Wiggin's Wharf), dredging	—	5,927 70
Neponset River, dredging	10,000 00	101,751 12
Old Harbor Cove, dredging	—	9,821 69
Orient Heights Channel, dredging	—	45,323 67
Pemberton Point, Hull, breakwater	60,000 00	90,520 98
Pleasant Park Yacht Club Channel, dredging	3,000 00	14,513 92
Point Allerton, Hull, sea wall	50,000 00	75,127 05
Point Shirley, dredging	—	3,713 37
Quincy Bay, dredging	7,150 00	71,263 17
Shirley Gut, Boston-Winthrop, dredging	—	2,110 96
South Boston, Southerly Shore, dredging	—	129,542 08
Stony Beach, Hull, sea wall	—	12,326 09
Town River, Quincy, survey and dredging	14,750 00	16,643 58
Weir River, Hull, dredging	25,000 00	130,963 51
Wessagussett Channel, dredging	—	815 20
Weymouth, Fore River, dredging	8,250 00	69,469 09
Winthrop Harbor Channels, dredging	1,700 00	39,783 58
	<hr/>	<hr/>
	\$191,850 00	\$1,045,448 16

EXPENDITURES AND CONTRIBUTIONS FOR RIVER AND HARBOR WORK
FROM DEC. 1, 1928, TO NOV. 30, 1929

<i>Location and Character of Work</i>	Contributions Expenditures	
Allen's Harbor, Harwich, timber fence, riprap and jetties	\$600 00	\$3,272 39
Annisquam River, Gloucester, dredging	7,000 00	29,016 99
Bass River, Dennis and Yarmouth, survey	1,500 00	1,570 53
Brant Rock, Marshfield, sea wall repairs	1,230 45	1,153 97
Brewster, Skaket Inlet, survey	—	617 19
Connecticut River, surveys	—	465 48
Connecticut River, Hadley, earth dike and riprap	—	5,947 95
Connecticut River, Hatfield, earth dike and riprap	—	4,689 95
Connecticut River, Northfield, riprap	—	2,934 81
Cotuit Harbor, Cotuit, dredging	5,000 00	11,238 65
Duxbury Harbor, Duxbury, survey	—	213 30
Falmouth Heights, Falmouth, sea wall repairs	—	254 00
Great Ponds, survey	—	1,728 57
Green Harbor, Marshfield, survey	—	165 19
Gun Rock Point, Hull, breakwater repairs	6,135 41	1,828 16
Hoosac River, North Adams, excavation	—	10,868 40
Improvement of rivers and harbors, general expenses	—	1,817 69
Ipswich River, Ipswich, survey	—	90 00
Lewis Bay, Barnstable, dredging	2,309 29	23,874 51
Manchester Harbor, Manchester, dredging	6,500 00	13,298 52

EXPENDITURES AND CONTRIBUTIONS, ETC. — *Continued**Location and Character of Work*

Contributions Expenditures

NobsCUSset Harbor, Dennis, timber fence and riprap	\$750 00	\$1,606 38
Oak Bluffs, bulkhead and jetties	25,000 00	42,423 55
Plymouth Harbor, survey	—	54 49
Provincetown Harbor, shore protection	75 00	149 76
Quamquisset Harbor, Falmouth, survey	—	710 31
Rock Harbor, Orleans, dredging	—	1,159 08
Scituate Harbor, dredging	20,000 00	40,362 67
Scituate:		
Cedar Point, sea wall repairs	—	139 92
North Scituate, surfside sea wall repairs	—	300 00
Seapuit River, Barnstable, dredging	—	9,304 87
Waquoit Bay, Falmouth, breakwater repairs	—	275 65
West Bay, Barnstable, dredging	—	7,121 23
West Harwich, shore protection	—	1,009 30
Wild Harbor, Falmouth, survey	—	241 84
Winthrop Shore, Winthrop, sea wall repairs	—	2,046 22
Wrecks and obstructions, removal of	—	8,373 35
	<hr/>	<hr/>
	\$76,100 15	\$230,324 87

EXPENDITURES AND CONTRIBUTIONS FROM 1893 TO 1929, INCLUSIVE, FOR RIVER AND HARBOR WORK, UNDER THE DIRECTION OF THE DEPARTMENT OF PUBLIC WORKS AND ITS PREDECESSORS (EXCEPTING BOSTON HARBOR)

<i>Locality and Character of Work</i>	Contributions by	
	Municipality or Others	Total Expenditure
Acushnet River, inspection and dredging	—	\$119,792 10
Allen's Harbor, Harwich, shore protection riprap and jetties	\$8,227 50	\$26,465 72
Allen's Pond, Dartmouth, survey	—	195 95
Angle Tree Monument, reservation	—	1,306 22
Annisquam River, Gloucester, dredging, removing ledges and riprap	13,250 00	170,975 20
Apponagansett Harbor and River, Dartmouth, survey, dredging and stone breakwater	—	55,786 05
Barnstable Harbor, dredging	1,500 00	18,554 64
Bass River, Beverly, dredging	55,535 75	81,075 56
Bass River, Dennis and Yarmouth, jetties, dredging and survey	4,000 00	116,961 23
Beach Street, Scituate. — See Scituate.		
Beverly Harbor, dredging	—	50,000 00 ¹
Brant Rock, Marshfield, sea wall	6,556 60	24,756 08
Brewster, Skaket Inlet, survey	—	617 19
Buck's Creek, Chatham, jetties, survey and dredging	2,500 00	39,719 69
Buzzard's Bay, Falmouth, survey	—	166 11
Cape Poge, Edgartown, cut through beach, jetties and riprap	16,500 00	42,396 50
Cataumet Harbor. — See Megansett Harbor.		
Cedar Point, Scituate. — See Scituate.		
Centerville River, Barnstable, dredging	1,500 00	7,603 22
Cohasset Harbor, Cohasset, breakwater and dredging	33,691 88	96,646 39
Concord River, Billerica, removing boulders	150 00	1,664 59

¹ \$50,000.00 expended by U. S. Government.

EXPENDITURES AND CONTRIBUTIONS, ETC. — *Continued*

<i>Locality and Character of Work</i>	Contributions by Municipality or Others	Total Expenditure
Connecticut River, investigation of navigation and surveys	—	\$8,878 96
Connecticut River, Agawam, protective work	—	18,814 42
Connecticut River, Chicopee, survey, wall and riprap	\$640 00	25,789 02
Connecticut River, Hadley, protective work, diversion wall and survey	5,000 00	118,740 95 ¹
Connecticut River, Hatfield, dikes and riprap	1,000 00	51,238 61
Connecticut River, Holyoke, dredging and protective work	1,991 29	9,253 27
Connecticut River, Holyoke, marking and lighting old piers	—	1,195 32
Connecticut River, Northampton, protective work	—	1,524 20
Connecticut River, Northfield, riprap	—	9,028 90
Connecticut River, South Hadley, wall	1,000 00	7,379 58
Connecticut River, Springfield and West Springfield, protective work	—	12,510 08 ²
Conservation of waters, investigation	—	67,764 54
Cotuit Harbor, Barnstable, dredging, survey and bulkhead repairs	13,183 38	81,303 99
Cuttyhunk Harbor, Gosnold, jetties and dredging	9,000 00	70,754 18
Deacon's Pond Harbor.—See Falmouth Inner Harbor.		
Duxbury Bay and Harbor, dredging	2,000 00	42,815 59
East Bay, Osterville, jetties, dredging and removing scows	10,000 00	70,924 23
Edgartown Harbor, survey and cut in beach	300 00	3,496 64
Ellisville Harbor, Plymouth, dredging and jetty repairs	—	19,660 43
Essex County beaches, survey	—	1,000 00
Essex River, Essex, dredging	—	76,304 33 ³
Fall River Harbor, improvement	—	1,130 18
Falmouth Heights, Falmouth, sea wall and riprap	16,222 54	57,963 13
Falmouth Inner Harbor, dredging, jetties, wall and riprap	29,000 00	143,734 26
First and Second Cliffs, Scituate.—See Scituate.		
Fresh Water Cove, Gloucester, dredging	3,300 00	17,477 53
Gay Head, survey	—	555 42
Glades, North Scituate.—See Scituate.		
Gloucester, Western Avenue, sea wall	35,000 00	60,000 00
Gloucester Harbor, Gloucester, dredging and removing ledges	7,500 00	118,994 65
Great Head, Winthrop.—See Winthrop Shore.		
Great Ponds, survey	—	13,872 13
Green Harbor, Marshfield, jetties, dredging, and survey	—	76,632 04
Gun Rock Point, Hull, breakwater	16,135 41	77,939 33
Harbor Cove, Gloucester, survey and dredging	3,866 00	25,155 04
Herring Creek, Scituate, survey	—	253 76
Herring River, Harwich, jetties, dredging and fence	2,500 00	58,181 14
Herring River, Wellfleet, dikes and ditches	10,000 00	34,509 38

¹ From 1888 inclusive.² From 1891 inclusive.³ \$5,000.00 expended by U. S. Government.

EXPENDITURES AND CONTRIBUTIONS, ETC. — *Continued*

<i>Locality and Character of Work</i>	Contributions by Municipality or Others	Total Expenditure
Hoosac River, North Adams, excavation and survey	—	\$21,271 67
Housatonic River, Sheffield, survey	—	2,011 29
Hull, sea wall and survey	\$8,882 06	37,906 21
Humarock Beach, Scituate. — See Scituate.		
Hyannisport, Barnstable, survey and breakwater	2,500 00	65,017 76
Improvement of rivers and harbors, general ex- penses	—	32,935 68
Ipswich River, Ipswich, jetty, wall, riprap and dredging	3,800 00	59,079 55
King's Beach, Swampscott, removal of obstruc- tion	—	166 41
Lake Anthony, Oak Bluffs, jetties and dredging	5,000 00	75,531 24
Lake Quannapowitt, Wakefield, investigation . .	—	345 32
Lewis Bay, Barnstable, survey and dredging . .	18,809 29	66,631 28
Little Harbor, Marblehead, dredging	2,500 00	11,166 16
Little River, Gloucester, survey	—	862 93
Lobster Cove, Gloucester, dredging	4,500 00	61,603 36
Lynn Harbor, anchorage basin, survey and dredging	5,200 00	121,609 22
Lynn Harbor and Saugus River, dredging and filling	37,500 00	163,431 53
Manchester Harbor, survey, jetties and dredging	70,000 00	163,776 57
Mattapoisett Harbor, survey	—	255 48
Megansett Harbor, dredging	12,730 00	52,116 66
Menamsha Inlet, Chilmark and Gay Head jet- ties, dredging, sea wall and riprap	2,700 00	116,992 11
Merrimack River, investigation and survey . .	—	1,208 50
Mill River, Gloucester, survey and dredging . .	300 00	24,899 59
Mitchell's River, Chatham, survey and dredging	6,000 00	23,113 92
Nahant, survey	—	82 15
Namequoit River and Pleasant Bay, dredging . .	5,500 00	28,529 62
Nantucket, survey of Sesachacha Pond	—	110 66
Nantucket Harbor, dredging	5,000 00	58,982 52
Nauset Harbor and Town Cove, dredging	2,000 00	10,671 24
New Bedford Harbor, dredging	—	18,856 57
New Bedford State Pier, pier shed and dredging	13,446 74 ¹	494,133 33
New Bedford State Pier, operation and mainte- nance	—	50,714 09
Newburyport Harbor, survey	—	115 97
Nobscusset Harbor, Dennis, breakwater, dredging and riprap	1,950 00	41,385 22
North River, Marshfield, surveys and removing rocks	1,800 00	8,658 75
North River, Salem, survey	—	704 52
North Scituate. — See Scituate.		
Oak Bluffs, removing rocks	—	594 95
Oak Bluffs, sea walls, bulkhead and jetties . .	52,500 00	132,745 53
Ocean Grove, Swansea, survey	—	143 23
Onset Bay, Wareham, survey and dredging . .	1,000 00	15,295 89
Orleans, survey	—	104 18
Palmer's Pond, Falmouth, survey	—	358 76
Pamet River, Truro, survey, dredging and re- pairing jetties	1,200 00	198,010 32

¹ Paid by Surety Company.

EXPENDITURES AND CONTRIBUTIONS, ETC. — *Continued*

<i>Locality and Character of Work</i>	Contributions by Municipality or Others	Total Expenditure
Paskamansett River, Dartmouth, dredging and jetty	—	\$5,227 68
Penikese Island, Gosnold, pile wharf and survey	—	5,192 95
Pines River, Revere and Saugus, survey . . .	—	904 80
Pleasant Bay, Chatham, dredging	\$600 00	2,364 33
Plum Island River, Newbury and Newburyport, survey	—	983 31
Plymouth Harbor, dredging and removing old piling	71,794 55 ¹	282,686 62
Plymouth Memorial Park, maintenance	—	31,077 85
Point Shirley, Winthrop.—See Winthrop Shore.		
Popponnesett Bay, Barnstable and Mashpee, dredging	—	46,252 33
Powow River, Amesbury, dredging channel and riprapping wall	—	502 94
Province Lands, Provincetown, reclamation . .	—	126,072 28
Provincetown Harbor, shore protection	75 00	28,559 87
Quamquisset Harbor, Falmouth, survey . . .	—	710 31
Quansett Harbor, Orleans, survey and dredging	500 00	2,194 50
Red Brook Harbor, Bourne, removing pier . . .	—	275 00
Revere, stone breakwater	—	60,397 93
Rock Harbor, Orleans, dredging	2,400 00	20,070 96
Rockport Harbor, dredging and removing rocks	500 00	15,555 58
Salem Harbor, survey	—	1,509 92
Salt Pond River, Eastham, survey	—	210 11
Salter's Point, Dartmouth, breakwater	4,500 00	42,939 57
Sand Hills, Scituate.—See Scituate.		
Sandwich Harbor, dredging channel, riprap and jetties	—	80,579 84
Saugus River, Lynn and Saugus	2,000 00	20,845 17
Scituate, shore protection:—		
Beach Street, Scituate, wall and jetties . . .	17,333 52	34,782 50
Cedar Point, Scituate, wall and breakwater . .	21,446 64	37,445 32
First and Second Cliffs, Scituate, wall and riprap	2,297 92	13,053 52
Glades, North Scituate, filling and riprap . .	13,250 78	29,534 54
Humarock Beach, Scituate, survey wall and jetties	37,816 38	57,279 06
North Scituate, Surfside, spur jetties	1,757 60	16,866 19
Sand Hills, Scituate, wall and jetties	4,511 26	12,624 06
Third Cliff, Scituate, riprap and survey . . .	75,193 10	121,353 34
Scituate Harbor, dredging and surveys	33,300 00	165,648 78
Scorton Harbor, Sandwich, jetty and dredging .	500 00	17,774 34
Seapuit River, Barnstable, dredging	13,000 00	25,088 55
Sesuit Harbor, Dennis, jetty	1,500 00	24,555 10
Shirley Gut, survey	—	97 05
Sippican Harbor, Marion, survey	—	7 17
Smith's Cove, Gloucester, survey and dredging .	3,875 00	13,466 16
South River, Salem, dredging	3,000 00	13,462 66
South Watuppa Pond, Fall River, fenders and excavation	—	203 42
Stage Harbor, Chatham, dikes and survey . . .	—	10,803 01
Taunton, Brockton waterways, investigation . .	—	5,278 18
Taunton River, survey and dredging	12,500 00	28,697 18

¹ \$57,000.00 expended under direction of U. S. Government.

EXPENDITURES AND CONTRIBUTIONS, ETC. — *Continued*

<i>Locality and Character of Work</i>	Contributions by Municipality or Others	Total Expenditure
Taunton River, Boston Harbor Canal, survey	—	\$9,932 75
Taunton River, Massachusetts Bay Canal, survey	—	11,786 71
Third Cliff, Scituate. — See Scituate.		
Vineyard Haven Harbor, repairing sea wall	\$2,380 50	11,945 01
Vineyard Haven Harbor, Tisbury, breakwater and dredging	1,000 00	45,518 25
Waquoit Bay, Falmouth, breakwater, wall and bulkhead	2,000 00	57,424 50
Wareham River, survey and dredging	5,000 00	42,567 93
Warrens Cove, Plymouth, sea wall and survey	9,713 98	25,099 86
Watch Hill, Chatham, survey and riprap	—	14,968 75
Water conservation. — See conservation of waters.		
Wellfleet Harbor, Wellfleet, survey and dredging	1,500 00	17,600 29
West Bay, Barnstable, and Osterville, survey, jetties and dredging	15,000 00	109,931 84
West Falmouth Harbor, Falmouth, dredging and breakwater	11,473 75	63,350 92
West Harwich, survey	3,500 00	13,493 41
Westfield River, Westfield, survey and jetties	—	6,037 29
Westport Harbor, Westport, jetty extension	—	19,025 07
Wild Harbor, Falmouth, jetty and dredging	5,000 00	36,379 55
Winthrop Shore, sea walls and protective work	40,500 00	97,343 71
Witchmere Harbor, Harwich, jetties and dredging	3,000 00	55,541 69
Woods Hole, Great Harbor, Falmouth, dredging	1,500 00	6,968 86
Wrecks, removal from tidewater	—	18,836 43
Yarmouthport Harbor, survey	7,000 00	95,977 37
	<hr/>	<hr/>
	\$1,008,088 42	\$6,564,451 78

FEDERAL APPROPRIATIONS AND EXPENDITURES

Federal appropriations and expenditures for improvement of rivers and harbors in Massachusetts from the establishment of the government to the close of the fiscal year ending June 30, 1929, are shown in the following tables furnished by the Chief of Engineers, U. S. Army: —

TABLE No. 1. — *Localities at Present under Improvement*

(Compiled from the Annual Report of the Chief of Engineers, U. S. Army, for the fiscal year ending June 30, 1929)

<i>Locality</i>	<i>Expenditures</i>	<i>Appropriations</i>
Newburyport Harbor	\$500,900 00	\$500,900 00
Gloucester Harbor	538,183 00	538,183 00
Beverly Harbor	246,690 41	246,690 41 ¹
Salem Harbor	71,368 66	71,368 66
Lynn Harbor	471,937 00	471,937 00
Mystic River	306,684 84	306,684 84
Boston Harbor	13,393,281 24	13,439,862 58
Dorchester Bay and Neponset River	95,166 23	136,908 90
Weymouth Fore River	641,150 00	641,150 00 ²
Weymouth Back River	27,000 00	27,000 00
Scituate Harbor	104,590 98	126,590 98
Plymouth Harbor	421,184 80	421,184 80

¹ In addition \$100,000 has been contributed by local interests.

² In addition \$108,400 has been contributed by local interests.

EXPENDITURES AND CONTRIBUTIONS, ETC. — *Continued*

<i>Locality</i>	<i>Expenditures</i>	<i>Appropriations</i>
Cape Cod Canal	\$11,704,205 69 ¹	\$11,829,555 45
Operating and care of Cape Cod Canal	—	258,283 82
Provincetown Harbor	348,062 72	348,062 72
Pollock Rip Shoals, Nantucket Sound	1,269,843 06	1,290,000 00
Harbor of Refuge at Nantucket	633,348 64	688,473 50
New Bedford and Fairhaven Harbor	935,852 58	938,110 00
Fall River Harbor	411,614 07	411,614 07
Taunton River	204,329 19	204,689 18
	<hr/>	<hr/>
	\$32,325,393 11	\$32,897,249 91

TABLE NO. 2. — *Localities in Which Work is Not Now in Progress*

(Compiled from data furnished by the United States Treasury Department and the Chief of Engineers, U. S. Army)

<i>Locality</i>	<i>Expenditures</i>	<i>Appropriations</i>
Merrimack River	\$404,466 72	\$404,466 72
Malden River	149,950 00	149,950 00
Sandy Bay, Cape Ann, Harbor of Refuge	1,941,478 00	1,941,478 00
Bass River	20,150 34	20,150 41
Buzzards Bay Harbor	2,500 00	2,500 00
Canapitset Channel	5,312 54	9,800 00
Chatham Harbor	12,171 36	13,732 79
Cohasset Harbor	10,000 00	10,000 00
Duxbury Harbor	37,000 00	37,000 00
East Dennis breakwater	7 57	1,500 00
Edgartown Harbor	25,000 00	25,000 00
Essex River	30,000 00	30,000 00
Hingham Harbor	38,316 58	39,000 00
Hyannis Harbor	221,267 07	221,267 07
Ipswich River	5,617 91	7,500 00
Kingston Harbor	8,940 09	10,000 00
Little Harbor, Woods Hole	18,000 00	18,000 00
Manchester Harbor	23,985 57	24,300 00
Marblehead Harbor	833 42	1,900 00
Martha's Vineyard Harbor	7,000 00	7,000 00
Powow River	50,940 72	51,000 00
Rockport Harbor	91,229 25	91,232 57
Town River	37,577 41	37,577 41
Vineyard Haven Harbor	55,387 35	60,000 00
Wareham Harbor	95,997 30	96,236 00
Wellfleet Harbor	11,365 57	16,000 00
Westport Harbor and River	3,000 00	3,000 00
Winthrop Harbor	9,000 00	9,000 00
Woods Hole Channel	343,599 92	344,000 00
	<hr/>	<hr/>
Total	\$3,660,094 69	\$3,682,590 97
<i>Recapitulation</i>		
Total of Table No. 1	\$32,325,393 11	\$32,897,249 91
Total of Table No. 2	3,660,094 69	3,682,590 97
	<hr/>	<hr/>
Grand total	\$35,985,487 80	\$36,579,840 88

¹ Includes \$11,500,000 purchase price of canal.

EXPENDITURES ON BOSTON HARBOR AND ITS TRIBUTARIES TO JUNE 30, 1929

(The tributaries given are those now under improvement and do not include tributaries heretofore improved.)

Locality	Expenditures	Appropriations
Boston Harbor proper ¹	\$13,393,281 24	\$13,439,862 58
Mystic River	306,684 84	306,684 84
	<hr/>	<hr/>
	\$13,699,966 08	\$13,746,547 42

¹ Including Chelsea Creek.

CONTRACTS MADE BY THE DEPARTMENT OF PUBLIC WORKS

CON-TRACT No.	Work	Contractor	Date
160	West Bay, Barnstable, dredging . .	Wianno Dredge Company, Inc. .	Jan. 9, 1928
176	Seapuit River, Barnstable, dredging .	Trimount Dredging Company .	Sept. 4, 1928
180	Connecticut River, Hatfield, earth dike and riprap.	Kelleher Corporation . . .	Oct. 2, 1928
182	Hoosic River, North Adams . .	Warner Bros. & Goodwin, Inc. .	Oct. 16, 1928
183	Commonwealth Pier No. 5, build engineering offices.	George W. Nicoll Co., Inc. . .	Oct. 23, 1928
184	Lewis Bay, Barnstable and Yarmouth, dredging.	Bay State Dredging and Contracting Co.	Oct. 23, 1928
186	Commonwealth Pier No. 5, stairs to cargo hoists	Progressive Iron Works, Inc. .	Dec. 11, 1928
187	Commonwealth Pier No. 5, motor generator set	M. B. Foster Electric Company .	Jan. 29, 1929
188	Storehouses on D and E streets, repairing platforms .	Hill & Delaney	Feb. 19, 1929
189	Commonwealth Pier No. 5, laying water pipes.	M. DeSisto Company . . .	Mar. 5, 1929
190	Point Shirley, Winthrop, repairs to sea wall.	National Gunite Contracting Company.	April 2, 1929
191	Manchester Harbor, dredging . .	Bay State Dredging and Contracting Company.	Mar. 26, 1929
192	Commonwealth Pier No. 5, additional heating and sprinklers.	Pierce & Cox	Apr. 2, 1929
193	Scituate Harbor, dredging . . .	Bay State Dredging and Contracting Company.	April 9, 1929
194	Commonwealth Pier No. 5, building room for restaurant.	Carl S. Helrich	April 23, 1929
195	Commonwealth Pier No. 5, painting rooms and passageways.	Thomas J. Walsh	April 16, 1929
196	Wollaston Channel and Basin, dredging.	Bay State Dredging and Contracting Company.	May 28, 1929
197	Commonwealth Pier No. 5, replacing broken lights of glass.	Maurice M. Devine	May 7, 1929

AND IN FORCE DURING THE YEAR ENDING NOV. 30, 1929

Condition of Work	Contract Prices	Amount paid during Year ending Nov. 30, 1929	Total paid to Nov. 30, 1929	Estimated Amount of Contract
Completed Aug. 17, 1929	For dredging and disposing of dredged material, 42 cents per cubic yard of material measured in place.	\$6,510 46	\$17,796 66	\$18,074 00
Completed Jan. 7, 1929	For removing boulders, \$14 per cubic yard. For dredging and disposing of dredged material within specified areas, 32 cents per cubic yard, measured in place. For removing and disposing of boulders, \$20 per cubic yard.	8,822 30	24,227 84	23,200 00
Completed Dec. 1, 1928	For furnishing and placing riprap, \$2.35 per ton of stone in place on bank of river. For furnishing materials and constructing dike, 84 cents for each cubic yard measured in place in completed work.	4,579 63	30,531 52	30,000 00
Completed May 18, 1929	For excavating material from bed of river or on side slopes and depositing it within fifty feet of point where excavated, grading fill, and all incidental work, \$1.00 for each cubic yard measured in place. For excavating material from river and disposing of it in disposal areas west of Brown Street Bridge and south of concrete wall at Willow Dell Street, \$2.00 for each cubic yard measured in place. For excavating boulders and disposing of them in area designated, \$4.00 for each cubic yard. For removing from river bed stumps, logs or other debris, \$25 for each obstruction removed.	7,912 12	17,213 36	19,000 00
Completed Feb. 21, 1929	For furnishing labor and materials and building engineering offices and rooms, \$53,630. For removing broken glass and furnishing and setting new wire glass, \$1.30 for each light of glass placed.	52,208 65	68,163 58	64,000 00
Completed Jan. 8, 1929	For reputting glass, 80 cents per light of glass. For dredging and disposing of dredged material, 52 cents for each cubic yard measured in scows.	22,158 01	34,364 72	30,020 00
Completed Jan. 30, 1929	For removing boulders, \$20 for each cubic yard. For furnishing labor and materials for building stairs to cargo hoists, \$97 for each set of stairs.	582 00	582 00	582 00
Completed Mar. 13, 1929	For furnishing labor and materials and installing motor generator set, the lump sum of \$1,689.	1,832 10	1,832 10	1,689 00
Completed Mar. 20, 1929	Unit prices	3,826 61	3,826 61	2,310 00
Completed Apr. 13, 1929	Lump sum of \$1,300	1,300 00	1,300 00	1,300 00
Completed Apr. 29, 1929	For cost of transporting men and plant, \$220. For furnishing all reinforcing steel and bolts and fastening, 13 cents per square foot measured in place. For furnishing cement, sand, water, power, equipment, labor and materials, \$3.80 for each bag of cement used in completed gunite work. For excavating trench along face of wall, \$1.00 per cubic yard measured in place.	1,925 82	1,925 82	1,814 00
Completed June 4, 1929	For dredging area "A," \$1.10 per cubic yard, scow measurement. For removing and disposing of boulders, \$20 for each cubic yard. For dredging areas "B" and "C" 49 cents per cubic yard, scow measurement.	11,797 91	11,797 91	12,500 00
Completed May 7, 1929	Lump sum of \$1,830	1,878 00	1,878 00	1,830 00
Completed June 24, 1929	For dredging and disposing of material at sea, 54.8 cents per cubic yard, scow measurement. For removing and disposing of boulders, \$20 per cubic yard.	38,995 60	38,995 60	39,000 00
Completed Nov. 15, 1929	Lump sum of \$9,829	11,540 80	11,540 80	9,829 00
Completed June 22, 1929	Lump sum of \$5,400	5,500 00	5,500 00	5,400 00
Completed June 25, 1929	For dredging, 55 cents per cubic yard, scow measurement. For removing boulders, \$20 for each cubic yard.	16,564 35	16,564 35	16,600 00
Completed June 11, 1929	For removing broken glass, furnishing and setting new wire glass, 92 cents for each light of glass set.	1,044 20	1,044 20	1,012 00

CONTRACTS MADE BY THE DEPARTMENT OF PUBLIC WORKS

CON-TRACT No.	Work	Contractor	Date
198	Connecticut River, Northfield, riprap .	Kelleher Corporation .	May 21, 1929
199	Oak Bluffs, timber bulkhead and jetties.	C. W. Blakeslee & Sons, Inc. .	July 2, 1929
200	Annisquam River, dredging . . .	Bay State Dredging and Contracting Company.	June 11, 1929
201	Savin Hill Bay and Dorchester Bay, dredging.	Trimount Dredging Company .	July 16, 1929
202	Cotuit Harbor, Barnstable, dredging .	William E. Burke . . .	July 30, 1929
204	D Street Storehouse, repairs to platforms.	Geo. W. Nicoll Co., Inc. . .	Sept. 3, 1929
205	Town River, Quincy, dredging . . .	Bay State Dredging and Contracting Company.	Sept. 17, 1929
206	Boston Airport, East Boston, moving hangars.	The John Cavanagh and Son Building Moving Co.	Sept. 4, 1929
208	Commonwealth Pier 5, wooden bridges over railroad tracks.	Maurice M. Devine . . .	Oct. 22, 1929
209	Motor boat <i>Buoyant</i> , building house .	Willis J. Reid . . .	Oct. 22, 1929
210	Revere, removal of wreck . . .	The Rendle Corporation . .	Oct. 8, 1929
211	West Harwich, shore protection . . .	Edward E. Crowell and Isaiah Kelley.	Oct. 29, 1929
213	Bass River, Yarmouth, extension of east-ly jetty.	Bay State Dredging & Contracting Co.	Nov. 19, 1929
214	Commonwealth Pier 5, repairs to timber platforms.	W. H. Ellis & Son Co. . .	Nov. 27, 1929
215	Hull, sea wall; Gun Rock—Green Hill, spur jetties.	Bradford Weston . . .	Nov. 19, 1929
216	Boston Airport, miscellaneous repairs to hangars of M. N. G.	Hill & Delaney . . .	Nov. 26, 1929
217	Commonwealth Pier 5, repairs to floor surfacing.	Reynolds Bros., Inc. . .	Nov. 27, 1929
218	Ramp and portion of D Street, repaving	A. DeStefano & Sons, Inc. . .	Nov. 27, 1929
219	D Street storehouse, cement plaster surfacing on walls.	Maurice M. Devine . . .	Nov. 27, 1929
220	Commonwealth Pier 5, indicator posts and gate valves on water pipes.	M. DeSisto Company . .	Nov. 27, 1929

AND IN FORCE DURING THE YEAR ENDING NOV. 30, 1929

Condition of Work	Contract Prices	Amount paid during Year ending Nov. 30, 1929	Total paid to Nov. 30, 1929	Estimated Amount of Contract
Completed July 1, 1929	For furnishing and placing riprap \$2.40 for each ton of riprap furnished in place.	\$2,886 82	\$2,886 82	\$2,880 00
Completed Oct. 28, 1929	For furnishing all materials and building main creosoted bulkhead, \$16 per linear foot of completed bulkhead in place.	40,948 66	40,948 66	47,050 00
	For furnishing all materials and building creosoted timber spur jetties, \$8 per linear foot of completed jetty in place.			
	For filling, \$2.70 per cubic yard of material measured in place.			
Completed Sept. 24, 1929	For dredging 51 cents per cubic yard, scow measurement.	26,035 88	26,035 88	26,540 00
In progress	For removing boulders \$20 per cubic yard.			
	For dredging channels, 40 cents per cubic yard measured in situ.	41,582 30	41,582 30	113,418 00
	For dredging flats, 49 cents per cubic yard measured in situ.			
	For removing and disposing of boulders, \$18 per cubic yard.			
Completed Nov. 27, 1929	For dredging, 65 cents per cubic yard, scow measurement.	8,789 72	8,789 72	9,115 00
	For removing and disposing of boulders, \$15 per cubic yard.			
In progress	Unit prices	794 47	794 47	2,277 00
In progress	For dredging channel and disposing of dredged material, 49 cents per cubic yard, scow measurement.	14,876 55	14,876 55	40,200 00
	For removing and disposing of boulders, \$20 per cubic yard.			
Completed Nov. 20, 1929	Items 1-5. Unit prices. (New foundations, etc.)	15,649 72	15,649 72	16,826 55
	Item 6. For moving each hangar \$2,800 for each one moved and erected complete in new foundations.			
	Item 7. For moving complete three small buildings to new location, \$2,000 for the three buildings in place.			
In progress	For making and installing wooden bridges over railroad tracks in track pit, \$249 each.	1,015 92	1,015 92	1,992 00
Completed Nov. 12, 1929	Lump sum of \$590	501 50	501 50	590 00
Completed Nov. 20, 1929	Lump sum of \$9,500	8,075 00	8,075 00	9,500 00
Not yet begun	For furnishing materials and building wire fence, \$1.55 for each linear foot.	-	-	5,087 10
	For furnishing materials and building wire spur jetties, \$1.55 for each linear foot.			
Not yet begun	For furnishing and placing stone riprap and chips in jetty, \$6.15 for each ton of 2,000 pounds.	-	-	22,140 00
Not yet begun	For furnishing, driving, fitting and securing fender piles on sides and end of pier, \$72 each.	-	-	758 00
	For furnishing, driving, fitting and securing new foundation piles, \$74 each.	-	-	758 00
	For furnishing and placing screw bolts, drift bolts, iron bands and fitting, 15 cents per pound.			
	For furnishing, fitting and securing yellow pine lumber in fender cap and platforms \$148 for 1,500 ft. B. M.			
Not yet begun	\$15 for each cubic yard of concrete in place in completed work.	-	-	525 00
Not yet begun	For installation of toilet room, complete, \$2,300.	-	-	3,465 00
	For furnishing and laying 2-inch water and 4-inch sewer pipes, including excavation, back fill and all incidental work, \$675.			
	For removal of boiler, \$150.			
	For each 1,000 ft. B. M. of lumber furnished and erected in storage platform, \$85.			
Not yet begun	Unit prices	-	-	4,340 00
Not yet begun	Unit prices	-	-	12,787 25
Not yet begun	For furnishing and placing cement plaster surfacing ½ inch thick on tile wall, \$2.25 per square yard measured in place in the completed work.	-	-	945 00
Not yet begun	For furnishing and installing complete, gate valves, indicator posts, offset line and wheel guards, including all incidental work, the lump sum of \$1,050.	-	-	1,050 00

CONTRACTS COMPLETED IN 1928 UNDER WHICH

CON-TRACT No.	Work	Contractor	Date
159	Commonwealth Pier No. 1, East Boston, repairing timber platforms.	W. A. Norton	Oct. 26, 1927
173	Commonwealth Pier No. 5, South Boston, repairing plaster walls.	Cement Gun Company . . .	Aug. 7, 1928
177	Castle Island, South Boston, repairs to sea wall.	Bay State Dredging and Contracting Company.	Sept. 18, 1928
178	Allen's Harbor, Harwich, timber fence and riprap.	George W. Starbuck	Sept. 18, 1928
179	Gun Rock Point, Hull, repairs to breakwater.	Bay State Dredging and Contracting Company .	Sept. 25, 1928
181	Connecticut River, Hadley, earth dike .	Kelleher Corporation . . .	Oct. 2, 1928
185	Rock Harbor, Eastham and Orleans, dredging.	Bay State Dredging and Contracting Company.	Oct. 23, 1928

FINAL PAYMENTS WERE MADE IN 1929

Condition of Work	Contract Prices	Amount paid during Year ending Nov. 30, 1929	Total paid to Nov. 30, 1929	Estimated Cost
Completed Dec. 20, 1927	Unit prices	\$678 12	\$2,336 84	\$2,263 00
Completed Oct. 23, 1928	Unit prices	1,442 31	9,615 37	8,918 20
Completed Oct. 27, 1928	Unit prices	837 74	5,584 91	5,385 00
Completed Oct. 30, 1928	For furnishing materials and labor to build timber fence, \$5.73 for each linear foot of completed fence.	315 62	2,104 10	1,978 00
	For furnishing and placing stone riprap, \$5.13 for each ton of 2,000 pounds.			
	For moving and depositing as riprap along the slope of the fill, 50 tons of stone chips, \$62.50.			
Completed Oct. 20, 1928	For furnishing and placing heavy stone riprap \$4.87 for each ton of 2,000 pounds in place in the completed work.	1,828 16	12,187 76	12,175 00
Completed Nov. 26, 1928	For furnishing materials and constructing dike, 84 cents per cubic yard measured in place in completed dike.	4,324 85	4,324 85	4,014 00
	For moving tobacco barn and shed and placing them on new foundations, the lump sum of \$150.			
Completed Nov. 22, 1928	For dredging channel and disposing of dredged material within area marked Disposal Area, 55 cents for each cubic yard measured in place.	1,084 46	7,229 75	7,500 00

LETTER CONTRACTS MADE BY THE DEPARTMENT

Contractor	Work
Barry, Frank H.	Scituate and North Scituate, sea wall repairs
Barry, Frank H.	Brant Rock, Marshfield, sea wall repairs
Barry Building Wrecking Co.	Fargo, D and E streets, South Boston, removing poles and wires.
Brooks, S. W. K.	Commonwealth Pier No. 5, repairing fender and chains.
Brooks, S. W. K.	Commonwealth Pier No. 5, repairing passenger gangways.
Byrne, Louis A.	Cotuit, removing damaged portions of timber bulkhead.
Byrne, Louis A.	Allen's Harbor, Harwich, repairing timber jetty
Byrne, Louis A.	West Harwich, construction of wire fencing
Davis, John A.	Waquoit Harbor, breakwater repairs
DeStefano & Sons, Inc., A.	D and Cypher streets, South Boston, paving between tracks.
Dinn, P. J., & Company	Viaduct and ramp, South Boston, repairs to pipe rail fence.
Duffy, Owen W., & Company	Allen's Harbor, Harwich, timber fence and riprap
Duffy, Owen W., & Company	Allen's Harbor, Harwich, fencing, back fill and riprap
Farquhar's Sons, Inc., J. J.	D Street Stores, South Boston, roof repairs
Finney, John B.	Plymouth, furnishing and applying fertilizer
General Fire Extinguisher Co.	D Street Stores, South Boston, repairing fire sprinklers.
General Fire Extinguisher Co.	Commonwealth Pier No. 5, South Boston, repairing fire sprinkler.
Grant, B. E., Co.	C and Cypher streets, South Boston, repairing tracks.
Hersey, A. A., & Sons Company	Commonwealth Pier No. 5, repairing timber platforms.
Helrich, Carl S.	Viaduct and ramp, South Boston, repairing fence
Nicoll, George W., Co.	D Street Stores, South Boston, removing partitions
N. Y., N. H. & H. R. R. Co.	D and Cypher streets, South Boston, changes in railroad tracks.
Pierce & Cox	Commonwealth Pier No. 5, repairs to heating system
Russo, P. F., Co., Inc.	Commonwealth Pier No. 5, furnishing and installing two lavatories.
Standard Steel and Iron Works	Commonwealth Pier No. 5, installing new ladders and repairing existing iron ladders
Starbuck, George W.	Nobscusset Harbor, Dennis, timber fence and ripraps.
Starbuck, George W.	State Pier, Plymouth, repairs to deck
Starbuck, George W.	Falmouth Heights, sea wall repairs
Starbuck, George W.	Provincetown, construction of wire fencing
Wall, Thomas F.	Commonwealth Pier No. 5, repairing Kinnear and Ogden doors.
Welch, J., and Son	Commonwealth Pier No. 5, repairing boiler settings
White, Antonio	Oak Bluffs, placing filling back of bulkhead
Worthington Pump & Machinery Corp.	Commonwealth Pier No. 5, repairing vacuum pump

LETTER CONTRACTS COMPLETED IN 1928 UNDER WHICH

Contractor	Work
Hauserman, E. F., Co.	Commonwealth Pier No. 5, furnishing and erecting steel office partition (Registry of Motor Vehicles).
Massachusetts Cornice Co.	Commonwealth Pier No. 5, repairing copper skylights.

OF PUBLIC WORKS IN FORCE DURING THE YEAR ENDING NOV. 30, 1929

Date	Condition of Work	Amount paid during Year ending Nov. 30, 1929	Total paid to Nov. 30, 1929
Oct. 9, 1929	In progress	\$439 92	\$439 92
April 23, 1929	Completed June 12, 1929	971 37	971 37
Nov. 16, 1929	Completed Nov. 22, 1929	150 00	150 00
May 27, 1929	Completed June 4, 1929	50 00	50 00
Dec. 5, 1928	Completed Jan. 15, 1929	786 10	786 10
Sept. 14, 1929	Completed Oct. 20, 1929	245 65	245 65
Mar. 1, 1929	Completed March 19, 1929	26 04	26 04
{ Nov. 20, 1928 }	{ Completed Dec. 8, 1928 }	{ 569 80 }	1,009 30
{ Jan. 16, 1929 }	{ Completed Jan. 19, 1929 }	{ 146 50 }	
{ Aug. 27, 1929 }	{ Completed Sept. 10, 1929 }	{ 293 00 }	
Nov. 2, 1928	Completed Dec. 7, 1928	191 10	
Aug. 28, 1929	Completed Sept. 19, 1929	171 82	1,274 00
Sept. 17, 1929	Completed Sept. 28, 1929	60 00	171 82
Aug. 2, 1929	Completed Sept. 17, 1929	1,229 70	60 00
Aug. 20, 1929	Completed Sept. 17, 1929	1,109 20	1,229 70
Aug. 1, 1929	In progress	1,476 76	1,109 20
Mar. 21, 1929	Completed April 10, 1929	275 00	1,476 76
Oct. 9, 1929	Completed Oct. 12, 1929	-	275 00
Oct. 1, 1929	Completed Oct. 12, 1929	-	-
{ June 8, 1929 }	{ Completed Aug. 20, 1929 }	351 05	351 05
{ Aug. 29, 1929 }	{ Completed April 3, 1929 }	98 00	
Mar. 8, 1929	Completed Oct. 31, 1929	50 00	98 00
Oct. 1, 1929	Completed Aug. 29, 1929	320 00	50 00
Aug. 21, 1929	Completed Sept. 3, 1929	1,273 20	320 00
Aug. 28, 1929	In progress	-	1,273 20
Oct. 1, 1929	In progress	-	-
Nov. 27, 1929	In progress	-	-
{ Dec. 19, 1928 }	{ Completed Jan. 21, 1929 }	178 90	210 90
{ Feb. 27, 1929 }	{ Completed March 4, 1929 }	32 00	
June 18, 1929	Completed July 27, 1929	1,353 38	1,353 38
June 3, 1929	Completed July 5, 1929	929 48	929 48
Mar. 27, 1929	Completed April 10, 1929	254 00	254 00
Dec. 10, 1928	Completed Jan. 4, 1929	149 76	254 00
Aug. 21, 1929	In progress	-	149 76
Aug. 29, 1929	Completed Sept. 28, 1929	547 80	-
Nov. 22, 1929	In progress	-	547 80
July 30, 1929	Completed Aug. 29, 1929	237 50	-

FINAL PAYMENTS WERE MADE DURING 1929

Date	Condition of Work	Amount paid during Year ending Nov. 30, 1929	Total paid to Nov. 30, 1929
Sept. 10, 1928	Completed Nov. 28, 1928	\$50 70	\$338 00
Nov. 2, 1928	Completed Nov. 22, 1928	111 07	740 55

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L. A. Mayo.

The Commonwealth of Massachusetts

ANNUAL REPORT

OF THE

Department of Public Works

FOR THE YEAR ENDING NOVEMBER 30, 1930



The Commonwealth of Massachusetts

ELEVENTH ANNUAL REPORT

OF THE

DEPARTMENT OF PUBLIC WORKS

YEAR ENDING NOVEMBER 30, 1930.

To the Honorable Senate and House of Representatives of the Commonwealth of Massachusetts.

In accordance with the provisions of law, I have the honor, as Commissioner of Public Works, to submit the eleventh annual report of the Department of Public Works for the year ending November 30, 1930.

The organization of the Department, as defined in chapter 16, General Laws, as amended by chapter 297, Acts of 1927, was as follows:—

Commissioner of Public Works, FRANK E. LYMAN.

Associate Commissioner, RICHARD K. HALE.

Associate Commissioner, HERMAN A. MACDONALD.

The Department has constructed during this year a greater mileage of highways than has been built in any previous year. The roadbuilding program was advanced materially early in the year in order to assist in the relief of the unemployment situation in the Commonwealth.

The mileage of new State highways laid out during the year amounted to 55.064 miles, but there was abandoned or discontinued in the year 13.985 miles of State highway due to change in alignment or cut-offs in order to improve certain routes, so that the net mileage of State highways amounted to 1,668.836 miles at the end of the year.

The Department has constructed, reconstructed and widened 132 miles of State highways and built in cooperation with cities, towns and counties under provisions of chapter 90, General Laws, a total of 208 miles of roads, a considerable increase over the mileage built last year. Under the provisions of section 26, chapter 81, General Laws, the Department has had charge of the repair and maintenance of about 8,200 miles of public ways, exclusive of State highways, in 170 towns. The Department's total expenditure for the year has amounted to about \$15,000,000.

The Department is adopting to a greater extent than before wider types of pavements, many miles built this year being 30 and 40 feet in width to provide for greater volumes of traffic.

The State highway projects have included the following:—The widening of that portion of the Newburyport Turnpike from Danvers to Newburyport was completed during the year, affording now a traffic artery at least 30 feet in width for the full length of that road. The reconstruction and widening of portions of the Mohawk Trail route in Erving, Orange and Greenfield, a total of about seven miles; the reconstruction of portions of the Jacobs Ladder route, in the towns of Chester, Becket and Lee, a total of about twelve miles; the beginning of the construction of a considerable portion of the new Boston to Worcester turnpike, covering a distance of about twelve miles from Southborough to the Worcester line, which will provide a double roadway having a total present surface width of 40 feet of cement concrete, one of the most advanced types of highway for through traffic, with especially designed structures or bridges at important crossroads for separation of grades, permitting the continuous flow of traffic such as at Grafton Street in Shrewsbury, Milk and East Main streets in Westborough, and at the Cordaville road in Southborough; the new State highway extending from Bridgewater to a point on the State highway south of Middleborough, a distance of about twelve miles, affords a new route, although on the line for some distance, of the old Bedford Turnpike, which by-passes Middleborough; on route No. 3 from Boston to Plymouth the reconstruction of State highway in Weymouth, Hanover and Pembroke, a total distance of about seven miles, affords a by-pass for through traffic avoiding the village of Hanover Four

Corners. A start has been made in the improvement of the Boston-Providence route, including a by-pass avoiding Attleborough, and another road from South Attleborough to the State line, affording a route to Newport and to points in Massachusetts, to the south and east, which will by-pass both Pawtucket and Providence. On the easterly side of the Cape Cod Canal a new State highway has been constructed from Bourne to Sagamore and thence by a new location on a by-pass around the village of Sandwich, a total distance of about seven and a half miles of bituminous concrete, affording beautiful views of the beaches and shore, particularly at the easterly portion of this route.

The elimination of two grade crossings on important traffic routes has been begun, one in Weston at Stony Brook Station, and the other in Charlemont. In each case the highway will pass over the railroad. On the Jacobs Ladder route also the State highway has been relocated to avoid a dangerous over-pass and a dangerous under-pass.

Several bridges of importance have been in this year's work. The Parker River bridge in Newbury was completed. A large truss bridge was built in Sandisfield over the Farmington River, at New Boston Village. A contract has been let also for the construction of the new Tyngsborough Bridge spanning the Merrimack River and main tracks of the Boston and Maine Railroad.

One of the important special act improvements was the completion of the portion of the circumferential route in Braintree, Weymouth and Hingham.

In the matter of maintenance of highways the Department has improved the marking of routes by the use of headlight reflecting buttons in the route markers as a great aid for night driving, particularly at important route intersections. In the matter of snow removal the Department has kept its equipment in first-class condition by the purchase of the highest types of snow removal machinery adapted to conditions in this State. In the general maintenance of the highways the increasing mileage has been kept in a first-class condition by the use of new methods and materials and at no substantial increase in annual outlay. During the year 276 signs have been erected by the Department in carrying out the provisions of the Resolve providing that such signs be erected to mark places of interest selected by the Tercentenary Commission.

For the improvement of waterways the Department has completed dredging in Weir River and in Boston Harbor near the Atlantic Avenue waterfront, and in the approach to the Cunard Docks at East Boston, as well as certain areas in Dorchester Bay near Savin Hill and Commercial Point. The construction of a dike at Provincetown is part of important reclamation work.

The Department prepared a very comprehensive display portraying the work of this Department as part of the State's Tercentenary Exhibit, which was commented upon favorably by many.

The engineering and clerical staff of the Department and the Registry of Motor Vehicles was as follows:—

Chief Engineer, ARTHUR W. DEAN.

Highway Engineer (Projects), FRANKLIN C. PILLSBURY.

Highway Engineer (Construction), RAYMOND C. COBURN.

Highway Engineer (Maintenance), GEORGE H. DELANO.

Bridge Engineer, GEORGE E. HARKNESS.

District Highway Engineers:

District No. 1, GEORGE A. CURTIS, — Berkshire County and the towns of Worthington, Middlefield and Huntington in Hampshire County, and the towns of Chester, Montgomery, Russell, Blandford and Tolland in Hampden County.

District No. 2, H. D. PHILLIPS, — Franklin, Hampshire and Hampden Counties, with the following exceptions: three towns in Hampshire County included in District No. 1 and ten towns in Hampden County included in Districts Nos. 1 and 3.

District No. 3, JOHN A. JOHNSTON, — Worcester County and the towns of Brimfield, Holland, Monson, Palmer and Wales in Hampden County.

District No. 4, F. D. SABIN, — Middlesex County.

District No. 5, JAMES E. LAWRENCE, — Essex and Suffolk Counties.

District No. 6, H. O. PARKER, — Norfolk and Bristol Counties.

District No. 7, H. C. HOLDEN, — Plymouth, Barnstable, Dukes and Nantucket Counties.

District Waterways Engineer, for Boston Harbor, — JOHN N. FERGUSON.

District Waterways Engineer, for harbors and waterways outside Boston Harbor,
FRANCIS L. SELLEW.

Secretary, MARY A. RILEY.

Financial Secretary, FRED FAIR.

Registry of Motor Vehicles

Registrar, GEORGE A. PARKER.

Deputy Registrar, ANTHONY A. BONZAGNI.

Assistant to the Registrar of Motor Vehicles, ALFRED W. DEVINE.

Chief Administrative Clerk, CHARLES R. GILLEY.

Chief Inspector of Motor Vehicles, ALBERT S. OLSSON.

A detailed report of the activities of the Department for the year is presented herewith.

FRANK E. LYMAN,
Commissioner of Public Works.

DECEMBER 1, 1930.

SPECIAL REPORTS TO THE LEGISLATURE

The Department was authorized and directed by the Legislature to make certain investigations, and the reports thereon were made as follows:—

The advisability and cost of constructing a way for motor vehicles and other traffic in the city of Newton and the town of Weston. Report made Nov. 30, 1929, by a Joint Board consisting of the Division of Metropolitan Planning of the Metropolitan District Commission and the Department of Public Works, under chapter 19, Resolves of 1929. (Senate 12 of 1930.)

The laying out, construction and widening of certain highways in East Boston and Revere. Report made Dec. 4, 1929, by the Department of Public Works, under chapter 23, Resolves of 1929. (House 130 of 1930.)

Further study of the matter of protecting cities and towns in the Hoosac River Valley from flood damage. Report made Dec. 4, 1929, by the Department of Public Works, under chapter 36, Resolves of 1929. (House 152 of 1930.)

Immediate relief of the traffic problem on the parkway at Revere Beach Reservation and elsewhere in the city of Revere. Report made Dec. 4, 1929, by the Department of Public Works, under chapter 44, Resolves of 1929. (House 174 of 1930.)

The most appropriate methods of disposing of minor infractions of the motor vehicle laws. Report made Dec. 4, 1929, by the Department of Public Works, under chapter 45 of the Resolves of 1929. (Senate 5 of 1930.)

Reconstructing the Saugus River Bridge between the cities of Revere and Lynn. Report made Nov. 27, 1929, by a Joint Board, consisting of the Metropolitan District Commission and the Department of Public Works, under chapter 25, Resolves of 1929. (House 154 of 1930.)

The abolition of grade crossings. Report made December, 1929 by a Special Commission, created under the provisions of chapter 30, Resolves of 1929. (House 200 of 1930.)

Further investigation of the advisability of filling in part of Fort Point Channel and South Bay in Boston Harbor. Report made on Dec. 4, 1929, by a Special Commission created under the provisions of chapter 48, Resolves of 1929. (House 190 of 1930.)

RECOMMENDATIONS FOR LEGISLATION

The Commissioner of Public Works presented to the State Secretary on Dec. 4, 1930, as required by law, that part of the current annual report which contains recommendations or suggestions for legislative action as follows:—

1. Extending the Powers of the Department of Public Works relative to the Taking and Laying out of State Highways

In order to expedite the procedure in the matter of laying out of State highways, it is recommended that, in addition to the present provisions of law relating thereto, which provide that county commissioners, aldermen or selectmen may file a petition with the Department of Public Works requesting that the Department lay out and take charge of as a State highway any new or existing way, the Department of Public Works be authorized, also, to lay out and take charge of any way as a State highway if the Department determines that public necessity and convenience so require.

2. Authorizing the Collecting and Regulating the Disposition of Fees for Certain Permits and Licenses issued by the Department of Public Works

In connection with the granting of permits by the Commissioner of Public Works under the provisions of section 30 of chapter 85, and section 19 of chapter 90, of the General Laws, and by the Department of Public Works for the opening up of State highways by others for any purpose under section 21 of chapter 81 of the General Laws, the Department recommends that a nominal fee of \$1 should be charged for the issuance of such permits. In connection with the granting of licenses for structures to be built or maintained under the provisions of section 18 of chapter 91 of the General Laws, the Department recommends that it should be authorized at its discretion to charge a nominal fee of \$5 for the issuance of such licenses.

3. The Operation within the Commonwealth of certain Motor Vehicles owned by Non-Residents

In order to clarify the law relating to the definition of non-residents and the matter of registration of vehicles of a non-resident of this State, the Department recommends further legislation.

4. Restricting the use of the Records of the Registrar of Motor Vehicles

In order to insure that the records of the Registrar of Motor Vehicles shall be used principally, in so far as the public is concerned, for their protection in recovering damages after accidents and related matters, and by governmental agencies in the collection of taxes and the enforcement of the laws, certain procedure is recommended regarding their use, and provision made that fees may be charged for information requested.

5. Regulating Notices of Cancellation for non-payment of Insurance Premiums by Finance Companies and Insurance Companies and delaying Revocation of Registration until Number Plates are Returned

The matter of the cancellation of registrations of motor vehicles for the non-payment of premiums, and the revocations of registrations incident thereto, in effect making the Registry of Motor Vehicles a collections agency in many cases, should be corrected. It is desirable that a registration of a motor vehicle should not be revoked in such cases unless the plates are returned, and, as a registration is good for the entire year, the insurance certificate covering it should also be good for the entire year, regardless of the financial contract, or at least the insurance certificate should cover the vehicle described until the person or company insuring it secures and surrenders the plates to the Department.

6. Transfer of Ownership of Registered Motor Vehicles

The motor vehicle law should provide for the legal registration of a motor vehicle in cases where the transfer of ownership and sale are contemplated, and to give the owner the privilege of exchanging plates from one car to another when there is a bona fide transfer of ownership of one vehicle and the purchase of another.

7. Revising the Definition of Motor Vehicles

The definition of motor vehicles as now defined to include motor-propelled, slow-moving road machinery, as provided by legislation passed in 1930, should be revised and restore them to their former status.

8. *Authorizing the Department of Public Works to construct a certain State Highway and other improvements in the City of Revere*

The Department recommends the construction of a highway in Revere beginning at the Revere Beach Parkway at or near the Revere Station of the Boston and Maine Railroad, thence extending northeasterly to a point on the so-called North Shore Road in the vicinity of Revere Street, with such connections or proper intersections with other ways as may be necessary. The determination of the details of such a highway should be made by the Department after careful surveys as to the most advisable route to follow.

APPROPRIATIONS

Chapter 115, Acts of 1930, making appropriations for the maintenance of departments, boards, commissions, institutions and certain activities of the Commonwealth, etc., is, in part, as follows:—

Item	<i>Requirements for Extinguishing the State Debt</i>	
219.	For sinking fund requirements and for certain serial bonds maturing during the present year, the sum of one million one hundred one thousand six hundred seven dollars and fifty cents, payable from the following accounts and funds in the following amounts: — from receipts from loans for the abolition of grade crossings, the sum of thirty-four thousand dollars; from the Highway Fund, the sum of three hundred twenty-seven thousand six hundred seven dollars and fifty cents; and the remainder from the general fund	\$1,101,607 50

Interest on the Public Debt

220.	For the payment of interest on the direct debt and temporary loans of the commonwealth, a sum not exceeding eight hundred ninety-three thousand seven hundred seventy-five dollars and seventy-five cents, of which sum three hundred eight thousand sixteen dollars and twenty-five cents shall be paid from the Highway Fund	893,775 75
298.	For other personal services of the division, including expenses of the board of appeal and certain other costs of supervising motor vehicle liability insurance, a sum not exceeding one hundred seventy-five thousand dollars, of which sum not more than twenty-eight thousand dollars may be charged to the Highway Fund .	175,000 00
306.	For the salaries of certain positions filled by the commissioner, with the approval of the governor and council, and for additional clerical and other assistance, a sum not exceeding two hundred fourteen thousand dollars, of which sum not more than twenty thousand dollars may be charged to the Highway Fund to cover the estimated cost of collection of the gasoline tax, so-called .	214,000 00

Service of the Department of Public Safety

Division of State Police:

657.	For the salaries of officers, including detectives, a sum not exceeding three hundred sixty thousand dollars, of which sum not more than one hundred ten thousand dollars may be charged to the Highway Fund . . .	360,000 00
659.	For other necessary expenses of the uniformed division, a sum not exceeding three hundred sixty thousand dollars, of which sum not more than one hundred eleven thousand dollars may be charged to the Highway Fund	360,000 00

Item

Service of the Department of Public Works

The appropriations made in the following three items are to be paid two thirds from the Highway Fund and one third from the Port of Boston receipts:

680.	For the salaries of the commissioner and the associate commissioners, a sum not exceeding nineteen thousand five hundred dollars	\$19,500 00
681.	For personal services of clerks and assistants to the commissioner, a sum not exceeding ten thousand eight hundred dollars	10,800 00
682.	For traveling expenses of the commissioners, a sum not exceeding four thousand dollars	4,000 00
	Total	<u>\$34,300 00</u>

Functions of the department relating to highways (the following appropriations, except as otherwise provided, are made from the Highway Fund):

683.	For the personal services of the chief engineer, engineers and office assistants, including certain clerks and stenographers, a sum not exceeding eighty-three thousand eight hundred dollars	83,800 00
684.	For services other than personal, including printing pamphlet of laws and the annual report, and necessary office supplies and equipment, a sum not exceeding twelve thousand dollars	12,000 00
685.	For the suppression of gypsy and brown tail moths on state highways, a sum not exceeding fourteen thousand dollars	14,000 00
686.	For the construction and repair of town and county ways, a sum not exceeding two million one hundred and fifty thousand dollars	2,150,000 00
687.	For aiding towns in the repair and improvement of public ways, a sum not exceeding one million dollars	1,000,000 00
688.	For the maintenance and repair of state highways, including care of snow on highways, expenses of traffic signs and lights, and payment of damages caused by defects in state highways with the approval of the attorney general, and for care and repair of road-building machinery, a sum not exceeding five million six hundred and fifty thousand dollars	5,650,000 00
689.	For the purpose of enabling the department of public works to secure federal aid for the construction of highways, a sum not exceeding six million dollars	6,000,000 00
690.	For administering the law relative to advertising signs near highways, a sum not exceeding fifteen thousand dollars, to be paid from the General Fund	15,000 00
691.	For Daniel O'Connell's Sons Company, in settlement of a claim, the sum of three hundred fifty-five dollars and fifteen cents. This amount shall be certified by the comptroller of the commonwealth only upon the filing of satisfactory releases or other evidence that the payment is accepted in full compensation on the part of the commonwealth in respect thereto	355 15

Registration of Motor Vehicles:

692.	For personal services, a sum not exceeding eight hundred ninety thousand dollars, of which sum ten thousand dollars may be charged to the General Fund, and the remainder shall be paid from the Highway Fund	890,000 00
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Item

693.	For services other than personal, including traveling expenses, purchase of necessary supplies and materials, including cartage and storage of the same, and for work incidental to the registration and licensing of owners and operators of motor vehicles, a sum not exceeding five hundred sixty thousand dollars, to be paid from the Highway Fund	\$560,000 00
694.	For printing and other expenses necessary in connection with publicity for certain safety work, a sum not exceeding twenty-five hundred dollars, to be paid from the Highway Fund	2,500 00

Special:

695.	For the construction and reconstruction of certain highways, as authorized by chapter three hundred and sixty-four of the acts of nineteen hundred and twenty-nine, a sum not exceeding one hundred seven thousand one hundred dollars, to be paid from the Highway Fund, and to be in addition to any amount heretofore appropriated for the purpose	107,100 00
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Functions of the department relating to waterways and public lands:

696.	For personal services of the chief engineer and assistants, a sum not exceeding fifty-two thousand dollars	52,000 00
697.	For services other than personal, including printing pamphlet of laws and the annual report, and for necessary office and engineering supplies and equipment, a sum not exceeding twenty-five hundred dollars	2,500 00
698.	For the care and maintenance of the province lands and of lands acquired and structures erected by the Provincetown tercentenary commission, a sum not exceeding five thousand dollars	5,000 00
699.	For the maintenance of structures, and for repairing damages along the coast line or river banks of the commonwealth, and for the removal of wrecks and other obstructions from tide waters and great ponds, a sum not exceeding forty thousand dollars	40,000 00
700.	For the improvement, development and protection of rivers and harbors, tide waters and foreshores within the commonwealth, as authorized by section eleven of chapter ninety-one of the General Laws, and of great ponds, a sum not exceeding one hundred twenty-five thousand dollars, and any unexpended balance of the appropriation remaining at the end of the current fiscal year may be expended in the succeeding fiscal year for the same purposes; provided, that all expenditures made for the protection of shores shall be upon condition that at least fifty per cent of the cost is covered by contributions from municipalities or other organizations and individuals, and that in the case of dredging channels for harbor improvements at least twenty-five per cent of the cost shall be so covered	125,000 00
701.	For re-establishing and permanently marking certain triangulation points and sections, as required by order of the land court in accordance with section thirty-three of chapter ninety-one of the General Laws, as amended, a sum not exceeding one thousand dollars	1,000 00

Item

702.	For expenses of surveying certain town boundaries, by the department of public works, a sum not exceeding forty-five hundred dollars	\$4,500 00
703.	For the supervision and operation of commonwealth pier five, including the salaries or other compensation of employees, and for the repair and replacement of equipment and other property, a sum not exceeding one hundred ten thousand dollars, to be paid from the Port of Boston receipts	110,000 00
704.	For the maintenance of pier one, at East Boston, a sum not exceeding eight thousand dollars, to be paid from the Port of Boston receipts	8,000 00
705.	For the maintenance and improvement of commonwealth property under the control of the department in connection with its functions relating to waterways and public lands, a sum not exceeding ninety thousand dollars, to be paid from the Port of Boston receipts	90,000 00
706.	For the operation and maintenance of the New Bedford state pier, a sum not exceeding five thousand dollars	5,000 00
707.	For the compensation of dumping inspectors, a sum not exceeding five thousand dollars	5,000 00
708.	For continuing the work in gauging the flow of water in the streams of the commonwealth, a sum not exceeding four thousand dollars	4,000 00

Specials:

709.	For dredging channels and filling flats, a sum not exceeding seventy-five thousand dollars, to be paid from the Port of Boston receipts and to be in addition to any amount heretofore appropriated for the purpose	75,000 00
710.	For the maintenance and repair of certain property in the town of Plymouth, a sum not exceeding six thousand dollars	6,000 00
711.	For the construction of railroads and piers and for the development of land at South Boston and East Boston, a sum not exceeding ten thousand dollars, to be paid from the Port of Boston receipts and to be in addition to any amount heretofore appropriated for the purpose	10,000 00

The following six items are to be paid from the Highway Fund:

733.	For maintenance of boulevards and parkways, with the approval of the metropolitan district commission, a sum not exceeding two hundred sixty-three thousand six hundred and fifty dollars, representing the state's portion or one half of the estimated cost of maintenance	263,650 00
734.	For resurfacing of boulevards and parkways, with the approval of the metropolitan district commission, a sum not exceeding one hundred thousand dollars, representing the state's portion or one half of the estimated cost of resurfacing	100,000 00
734a.	For maintenance of boulevards and parkways, with the approval of the metropolitan district commission, to provide for the payment of certain deficiencies incurred on account of the construction of the Neponset bridge, so-called, the sum of one hundred eighty-seven dollars and fifty cents, representing the state's portion or one-quarter of the total deficiencies	187 50
735.	For the construction of certain boulevards, as authorized by chapter three hundred and thirty-four of the acts of nineteen hundred and twenty-nine, a sum not exceeding	

Item

	one hundred eighty-five thousand five hundred dollars, representing the remainder of the state's portion of the estimated cost of construction, the same to be in addition to any amount heretofore appropriated for the purpose	\$185,500 00
736.	For certain improvements in the Charles River basin, as authorized by chapter three hundred and seventy-one of the acts of nineteen hundred and twenty-nine, a sum not exceeding one hundred fifty-five thousand dollars, representing the state's portion of the cost of such improvements required for the current year, the same to be in addition to any amount heretofore appropriated for the purpose	155,000 00
737.	(This item omitted.)	
738.	For maintenance of Wellington bridge, with the approval of the metropolitan district commission, a sum not exceeding fifty-five hundred dollars	5,500 00

DEFICIENCIES

For deficiencies in certain appropriations of previous years, in certain items, as follows:

Department of Public Works

For the maintenance and repair of state highways, including care of snow on highways, expenses of traffic signs and lights, and payment of damages caused by defects in state highways with the approval of the attorney general, and for care and repair of road-building machinery, the sum of two hundred thirty-four dollars and ninety-three cents, to be paid from the Highway Fund	234 93
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Chapter 426, Acts of 1930, in addition to the general appropriation act making appropriations to supplement certain items contained therein, and for certain new activities and projects, is, in part, as follows: —

Service of Special Legislative Investigations

32c.	For expenses of a further investigation by an unpaid special commission relative to the filling of navigable waters in a part of Fort Point Channel and South Bay, as authorized by chapter twenty-nine of the resolves of the present year, a sum not exceeding two thousand dollars	2,000 00
32d.	For expenses of a special unpaid commission to investigate relative to the advisability of the construction by the commonwealth of a fish pier in Gloucester harbor, as authorized by chapter thirty-two of the resolves of the present year, a sum not exceeding five thousand dollars	5,000 00

Service of the Treasurer and Receiver-General

219.	To meet in part the appropriation required for serial bonds maturing during the present year, the sum of two hundred fifty thousand dollars shall be taken from the balance of the receipts of the sale of the Boston dry dock.	
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Service of the Department of Public Works

Functions of the department relating to highways (the following appropriations, except as otherwise provided, are made from the Highway Fund):

686.	For the construction and repair of town and county ways, a sum not exceeding six hundred fifty thousand dollars,	
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Item

	the same to be in addition to any amount heretofore appropriated for the purpose	\$650,000 00
689.	For the purpose of enabling the department of public works to secure federal aid for the construction of highways, a sum not exceeding one hundred fifty thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose	150,000 00

Registration of Motor Vehicles:

692.	For personal services, a sum not exceeding ten thousand dollars, to be paid from the Highway Fund, and to be in addition to any amount heretofore appropriated for the purpose	10,000 00
693.	For services other than personal, including traveling expenses, purchase of necessary supplies and materials, including cartage and storage of the same, and for work incidental to the registration and licensing of owners and operators of motor vehicles, a sum not exceeding fifty-nine thousand dollars, to be paid from the Highway Fund, and to be in addition to any amount heretofore appropriated for the purpose	59,000 00

The sum of one hundred thousand dollars is hereby transferred from the appropriation made in item six hundred and eighty-seven of the general appropriation act of the present year, and the same amount is added to item six hundred and eighty-six.

Functions of the department relating to waterways and public lands:

700.	For the improvement, development and protection of rivers and harbors, tide waters and foreshores within the commonwealth, as authorized by section eleven of chapter ninety-one of the General Laws, and of great ponds, a sum not exceeding fifty thousand dollars, to be in addition to any amount heretofore appropriated for the purpose, and any unexpended balance of the appropriation remaining at the end of the current fiscal year may be expended in the succeeding fiscal year for the same purposes; provided, that all expenditures made for the protection of shores shall be upon condition that at least fifty per cent of the cost is covered by contributions from municipalities or other organizations and individuals, and that in the case of dredging channels for harbor improvements at least twenty-five per cent of the cost shall be so covered	50,000 00
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Specials:

708a.	For the cost of constructing a dike on province lands in the town of Provincetown, as authorized by chapter three hundred of the acts of the present year, a sum not exceeding twenty thousand dollars	20,000 00
709.	For dredging channels and filling flats, a sum not exceeding ninety thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose, and to be paid from the receipts from the Port of Boston or general fund	90,000 00

Item *Metropolitan District Commission (Highway Fund)*

The following items are to be paid from the Highway Fund:

733.	For maintenance of boulevards and parkways, with the approval of the metropolitan district commission, a sum not exceeding sixty-two hundred and fifty dollars, the same to be in addition to any amount heretofore appropriated for the purpose	\$6,250 00
734a.	For maintenance of boulevards and parkways, with the approval of the metropolitan district commission, to provide for the payment of certain deficiencies incurred on account of the construction of the Neponset bridge, so-called, the sum of seventy dollars and twenty-five cents, representing the state's portion of one quarter of the total deficiencies, and to be in addition to any amount heretofore appropriated for the purpose . . .	70 25
737.	For the cost of reconstructing a section of boulevard in the Middlesex Fells reservation, a sum not exceeding one hundred thirty thousand dollars	130,000 00

Unclassified Accounts and Claims

Payments for certain claims authorized by the following appropriations shall be certified by the comptroller of the commonwealth only upon the filing of satisfactory releases or other evidence that the payments are accepted in full compensation on the part of the commonwealth in respect thereto:

751b.	For Clara Boyce of Warren, Rhode Island, the sum of four thousand and ninety-eight dollars, and for Frank A. Boyce of Seekonk, Massachusetts, the sum of forty-eight hundred sixty-six dollars and fifty cents, both in compensation for injuries sustained in an automobile accident, as authorized by chapter twenty-one of the resolves of the present year, and to be paid from the Highway Fund	8,964 50
751f.	For the American-Hawaiian Steamship Company, in settlement of a certain claim, as authorized by chapter thirty-four of the resolves of the present year, the sum of three thousand dollars	3,000 00
751g.	For Giles E. Hopkins of Arlington, the sum of nine hundred sixty-seven dollars and sixty-six cents, for Arnold A. Goodwin of said town, the sum of fifteen hundred ninety-seven dollars and thirty-two cents, and for Roswell Eldridge of Lexington, the sum of nineteen hundred forty-eight dollars, severally in compensation for injuries sustained in an automobile accident, as authorized by chapter thirty-nine of the resolves of the present year, and to be paid from the Highway Fund . . .	4,512 98
751h.	For the parents of John F. Grant, as authorized by chapter forty of the resolves of the present year, the sum of three thousand dollars, to be paid from the Highway Fund	3,000 00

DEFICIENCIES

For deficiencies in certain appropriations of previous years, in certain items, as follows:

Service of the Department of Public Works

For the maintenance and repair of state highways, including care of snow on highways, expenses of traffic signs and

Item

	lights, and payment of damages caused by defects in state highways with the approval of the attorney general, and for care and repair of road-building machinery, the sum of six hundred seventy-four dollars and eighteen cents, to be paid from the Highway Fund .	\$674 18
For	the purpose of enabling the department of public works to secure federal aid for the construction of highways, the sum of twelve hundred fifty-one dollars and thirty-nine cents, to be paid from the Highway Fund . . .	1,251 39
For	the maintenance and improvement of commonwealth property under the control of the department in connection with its functions relating to waterways and public lands, the sum of eighty-seven dollars and ninety-six cents, to be paid from the Port of Boston receipts	87 96

Metropolitan District Commission

The following items are to be assessed upon the several districts in accordance with the methods fixed by law, and to be expended under the direction and with the approval of the metropolitan district commission:

767a.	For the cost of an investigation by an unpaid special commission of the general subject of the discharge of sewage into Boston harbor, as authorized by chapter twenty-nine of the resolves of nineteen hundred and twenty-nine, a sum not exceeding thirty thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose, and to be assessed in accordance with said resolve	30,000 00
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OTHER APPROPRIATIONS

Service of Legislative Investigations

320.	For expenses of an investigation relative to the future policy of the commonwealth with regard to the maintenance by the commonwealth of bridges, as authorized by chapter sixty-three of the resolves of the present year, a sum not exceeding twenty-five hundred dollars, to be paid from the Highway Fund	2,500 00
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Service of the Department of Public Works

686a.	For expenses on account of the removal of certain highway bridges over the former location of the Hampden Railroad Corporation, as authorized by chapter three hundred and eighty-eight of the acts of the present year, a sum not exceeding thirty thousand dollars, to be paid from the Highway Fund	30,000 00
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The expenses required to carry out the provisions of chapter four hundred and six of the acts of the present year may be paid out of item six hundred and eighty-eight of chapter one hundred and fifteen of the acts of the present year.

Service of the Massachusetts Bay Colony Tercentenary Commission

184a.	For certain expenses approved by the Massachusetts Bay Colony tercentenary commission, as authorized by chapter sixty-eight of the resolves of the present year, a sum not exceeding seventy-five thousand dollars .	75,000 00
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Item *Service of the Treasurer and Receiver-General*

219. To meet in part the appropriation required for serial bonds maturing during the present year, the sum of two hundred fifty thousand dollars shall be taken from the balance of the receipts of the sale of the Boston dry dock.

Service of the Department of Public Works

Functions of the department relating to highways (the following appropriations, except as otherwise provided, are made from the Highway Fund):

686.	For the construction and repair of town and county ways, a sum not exceeding fifty thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose	\$50,000 00
689.	For the purpose of enabling the department of public works to secure federal aid for the construction of highways, a sum not exceeding one hundred fifty thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose	150,000 00
For expenditures authorized by chapter four hundred and twenty of the acts of the present year, the following amounts are hereby appropriated, to be paid from the Highway Fund:		
693a.	For authorized expenditures by the department of public works, a sum not exceeding six hundred forty thousand dollars	640,000 00
737a.	For authorized expenditures by the metropolitan district commission, a sum not exceeding eighty thousand dollars	80,000 00

FINANCIAL STATEMENTS
SUMMARY OF INCOME
YEAR ENDING NOV. 30, 1930

Highway Fund

Ch. 288, Acts of 1925

Fees (for registration of motor vehicles, licenses to operate, etc.) and fines (penalties, Sundry Courts), gross receipts	\$7,185,456 63	
Gasoline tax, gross	10,504,736 85	
Contributions for highways and assessments (G. L., Ch. 81)	1,150,067 41	
Appropriation balances of previous years reverting	108,226 45	
Reimbursement for repairs to guard rails . .	10,155 57	
Sale of old materials	1,395 92	
Refunds	4,775 55	
		\$18,964,814 38

Port of Boston Fund

Ch. 91, General Laws

Rent (leases and permits)	\$216,893 62
Reimbursement for services (inspection of dumping dredged material in Boston Harbor) . .	3,083 39
Use of Commonwealth Pier No. 5 (wharfage, dockage, rentals, etc.)	193,241 86
Use of Commonwealth Pier No. 1 (rentals, etc.)	637 69
Use of Hayward Creek Property (rentals) . .	168 00

Revenue from permits for dumping dredged material at receiving basins	\$5,622 09	
License charges (for tidewater displacement and occupying Commonwealth tide lands) Boston Harbor	200,726 28	
Telephone pay station receipts	99 83	
Sales of land, South Boston	25,025 00	
Sales of Boston Harbor maps	34 50	
Refunds	148 44	
	<hr/>	\$645,680 70
<i>Department Income</i> (Ordinary Revenue)		
Reimbursement for services (heating D Street Building)	\$232 00	
Sales (specifications and plans for contracts)	748 18	
Interest on Bank accounts	1,927 98	
Reimbursement for services (inspection of dumping dredged material outside of Boston Harbor, ch. 196, Acts of 1925)	1,203 88	
License charges (for tidewater displacement and occupying Commonwealth tide lands) outside of Boston Harbor	8,450 12	
Certified copying charges	142 00	
Sale of Atlas sheets and miscellaneous plans	957 85	
Use of Province Lands (§ 25, C. 91, G. L.)	301 85	
Permits for advertising signs	18,811 34	
Use of New Bedford State Pier	7,621 58	
Highway and route maps and bulletins	50 00	
	<hr/>	\$40,446 78
<i>Improvement of Rivers and Harbors Trust</i> Sections 11, 29, ch. 91, Gen. Laws		
Contributions from towns, individuals or others		\$201,422 07
<i>Highway Trust</i> (Section 30, Ch. 81, Gen. Laws)		
Federal Aid (reimbursement from U. S. Government)	\$1,264,131 53	
	<hr/>	\$1,264,131 53
Total		\$21,116,495 46

EXPENDITURES

The expenditures by the Department under the provisions of General Laws and other acts and the appropriation acts, chapters 115 and 426, Acts of 1930, during the fiscal year ending Nov. 30, 1930, were as follows:

ADMINISTRATIVE

Commissioners, Associate Commissioners, personal services of clerks, stenographers, and commissioners travel	\$30,937 82
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RELATING TO HIGHWAYS

<i>Personal Services</i> —Chief Engineer, clerks and stenographers	82,893 97
<i>State Highways</i> — <i>Construction</i> (Chap. 81 G. L.)	
General Contract Work	\$3,147,392 06
Engineering (Supervision)	473,028 01
Rent of office, Commonwealth Pier 5	8,250 00
Highway Testing Laboratory	12,311 91

\$3,640,981 98

Maintenance and Repair of State Highways

(Chapter 81, General Laws)

Reconstruction of State Highways

General contract work	\$4,384,531 85
Engineering, supervision on reconst.	467,214 86

\$4,851,746 71*Ordinary Maintenance*

General Maintenance	\$1,049,187 82
Engineering (supervision)	288,416 07
Highway Testing Laboratory	10,824 07
Laboratory machinery	2,271 76
Care and repair of road building machinery	206,667 55
Removal of snow from highways	422,698 14
Roadside planting and development	44,383 36
Traffic, engineering, signs and traffic count	147,969 02
Paint manufacture	26,113 77
Newburyport bridge, Salisbury-Newbury- port, over Merrimack River, maintenance and operation	4,775 76
Brightman St. Bridge, Fall River-Somerset maintenance and operation	15,243 90
New Bedford-Fairhaven Bridge-Acushnet River, (Chapter 426, Acts of 1930)	10,065 56
Tercentenary signs on highways (Ch. 10 Res. 1930)	14,364 04
Route and detour maps	3,930 95
Rent for offices at Commonwealth Pier 5	9,750 00
Rent for offices at D Street	15,000 00
Additional office at Commonwealth Pier 5	14,739 67

\$2,286,401 44*Construction and Repair of Town and County Ways*

(Section 34, Chapter 90, General Laws) States' expenditures for work contracted for in cities and towns

Engineering and expense (supervision)	\$1,987,419 05
	479,430 07

\$2,466,849 12*Aiding Towns in the Repair and Improvement of Public Ways*

(Section 26, Chapter 81, G. L., as amended)

States' expenditures for work contracted for in cities and towns	\$816,135 78
Engineering and expense (supervision)	74,822 93

\$890,958 71*Highways in Five Western Counties:*

(Chapter 221, Acts of 1915) and

(Chapter 572, Acts of 1920)

37 77

Incidentals (printing, postage, supplies, etc.)

9,981 57

Advertising Signs, regulation of, personal services
and expenses

14,605 31

Southern Traffic Route Const. (Chapter 330 and
344 Acts of 1925 and Section 4, Chapter 369
and 398, Acts of 1926)

Engineering and awards 27,487 65

Southern Artery Betterment Assessments, Refunds

(Chapter 382, Acts of 1929)

1,333 19

Traffic Artery in City of Cambridge (Connect-

ing Alewife Brook Parkway and Fresh Pond Parkway (Chapter 366, Acts of 1928) . . .	\$176,829 59
Public Highway, shore of Dorchester Bay, Quincy (Chapter 259, Acts of 1928) . . .	6,633 78
Highways in Malden, Braintree, Weymouth and Hingham, Braintree and Weymouth . . .	\$261,252 01
Malden	62,808 08
	<hr/>
	\$324,060 09
Bridges over location of Southern New England Railroad, repairs (Chapter 308, Acts of 1930) . . .	22,820 45
Removal of Bridges, Palmer, Ludlow and Belchertown (Chapter 388, Acts of 1930) . . .	9,929 56
Highways in Metropolitan District (Chapter 420, Acts of 1930)	
Section 1. — Canton — Dedham — Wellesley, etc.	\$11,524 80
Section 2. — Canterbury Street, Boston . . .	5,565 93
Section 3. — Land taking—Neponset River—Milton	4,677 61
Section 4. — West Roxbury—Brookline Parkway	2,056 99
Section 5. — Broadway—Revere Beach Parkway—Grade separation, Everett	1,269 55
	<hr/>
	\$25,094 88
Suppression of gypsy and brown tail moths on State highways in cities and towns . . .	12,644 08
Claim of D. O'Connell	355 15
	<hr/>
Total Expenditures for Highways	\$14,851,645 00

EXPENDITURES RELATING TO THE REGISTRY OF MOTOR VEHICLES

The cost of running the Registry of Motor Vehicles	\$1,511,043 20
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SUMMARY OF EXPENDITURES RELATING TO WATERWAYS

General Expenses	\$53,151 60
<i>Boston Harbor:</i>	
Maintenance and operation, Commonwealth Pier 1, East Boston . . .	8,013 70
Maintenance and operation, Commonwealth Pier 5, South Boston . . .	107,852 41
Maintenance of property	95,985 98
Dredging and filling	196,674 32
Streets, piers and railroads	36,814 73
Dredging Savin Hill Bay	77,322 31
Boston Harbor investigation	29,613 18
Moving hangars at airport, East Boston	5,811 72
<i>Outside of Boston Harbor:</i>	
Improvement of rivers and harbors	267,066 90
Fort Point Channel investigation	—
Repairing damages to shore	62,309 53
Maintenance, New Bedford State Pier	2,474 46
Expenses of province lands	5,000 00
Expenses of Plymouth property	4,609 23
Topographical survey	914 36
Stream gauging	3,865 48
Surveying town boundaries	2,595 67
Compensation for services of dumping inspectors	804 50
Chapter 300, 1930—Dike Province Lands	14,280 82
	<hr/>
Total	\$975,160 90

SUMMARY OF EXPENDITURES BY DEPARTMENT FOR YEAR ENDING NOV. 30, 1930

Administrative	\$30,937 82
Relating to Highways	14,851,645 00
Registry of Motor Vehicles	1,511,043 20
Relating to Waterways	975,160 90
Total	<u>\$17,368,786 92</u>

COOPERATIVE WORK—SUPERVISION OF EXPENDITURES

The Department has supervised the expenditures during the year by cities, towns and counties, under chapter 81, General Laws, as amended by section 1, chapter 120, Acts of 1921 (inserting a new section 26-A), and as amended in section 26 by chapter 281, Acts of 1922, chapter 315, Acts of 1926, and chapter 171, Acts of 1930, and under section 34, chapter 90, General Laws, as amended by section 1, chapter 112, Acts of 1921, chapter 288, Acts of 1925, chapter 316, Acts of 1928, and by chapter 343, Acts of 1929, of approximately \$3,639,703.60 for cooperative work, in repairing, maintaining and improving certain public ways, and for other road work for which the towns and cities made contributions. All such work was carried out in conformity with contracts, specifications and plans approved by the Department.

RELATING TO HIGHWAYS

GENERAL STATEMENT

State Highways.—During the year ending Nov. 30, 1930, the Department has laid out new State highways amounting to 55.064 miles of highways in 29 cities and towns. Under chapter 81, General Laws, as amended by chapter 427, Acts of 1921, 13.985 miles of State highways were discontinued or abandoned. The total length of State highways at the end of the year was 1,668.836 miles. Work was completed on about 40.996 miles of State highway, portions of which were laid out in 1929.

Highways Constructed in 1930.—Construction has been completed on 40.996 miles of State highway, 208.066 miles of highways under the provisions of section 34 of chapter 90 of the General Laws, as amended, and 8.252 miles of highways under the provisions of special acts, making a total of 257.314 miles completed during the year.

Of the above roads completed this year 23.278 miles were of gravel; 24.845 miles were of bituminous concrete; 117.868 miles were of bituminous macadam; 8.387 miles were of reinforced concrete; 62.009 miles were of gravel with a bituminous treatment, 6.803 miles were of dual type (reinforced concrete and bituminous macadam); 0.597 miles were of waterbound macadam with a bituminous treatment; 13.527 miles were of bituminous concrete (re-tread method).

Resurfacing, Reconstruction and Widening of State Highways.—During the year 13.294 miles of State highway were widened but not resurfaced and 77.964 miles were resurfaced or reconstructed and widened. These figures are for completed work. There is uncompleted work in various stages on a number of miles of road where the work will be completed next year.

Of the roads resurfaced or reconstructed this year, 47.565 miles were of bituminous macadam, 10.418 miles were of bituminous concrete, 12.173 miles were of reinforced concrete, and 7.808 miles were of dual type (reinforced concrete and bituminous macadam).

Surveys, Plans and Estimates.—During the year preliminary surveys, plans and estimates were made as follows:

For State Highway Construction.—Preliminary surveys in 57 towns, 111.453 miles; plans in 45 towns, 117.659 miles; preliminary estimates in 28 towns, 61.004 miles; lines and grades in 30 towns, 69.034 miles and final surveys 11 towns, 12.868 miles.

For State Highway Reconstruction and Resurfacing.—Preliminary surveys in 58 towns, 103.420 miles; plans in 55 towns, 101.616 miles; preliminary estimates

in 38 towns, 113.161 miles; lines and grades in 45 towns, 162.210 miles; final surveys in 40 towns, 83.838 miles.

Under section 34, Chapter 90, General Laws, as amended. — Preliminary surveys in 154 towns, 232.305 miles; plans in 153 towns, 232.377 miles; preliminary estimates in 144 towns, 148.130 miles; lines and grades in 189 towns, 210.421 miles; final survey in 57 towns, 115.610 miles. Preliminary survey, plans, estimates and lines and grades in 2 towns, 4.598 miles by a private engineer under State supervision.

Under the provisions of various Resolves, surveys were made as follows: —

Chapter 366, Resolves of 1928, — final survey in 1 city, 1.723 miles.

Chapter 364, Resolves of 1929, section 1, — final survey in 1 city, 1.529 miles.

Chapter 364, Resolves of 1929, section 4, — final survey in 3 towns, 6.061 miles.

Chapter 48, Resolves of 1930, section 5, — reconnaissance survey and plans in 2 towns, 4.497 miles.

Chapter 420, Acts of 1930: —

Section 1; — Preliminary survey and plans in 3 towns, 3.156 miles.

Section 2; — Preliminary survey and plans in 1 city, 6.865 miles.

Section 3; — Preliminary survey and plans in 1 city, and 1 town, 1.824 miles.

Section 4; — Preliminary survey and plans in 1 city, and 1 town, 3.826 miles.

Section 5; — Preliminary survey and plans in 1 city, 0.833 miles.

For Roads to be Constructed by Towns. — Preliminary surveys in 4 towns, 1.023 miles; preliminary plans in 2 towns, 0.688 miles; preliminary estimates in 2 towns, 0.577 miles; lines and grades in 2 towns, 0.577 miles; final survey in 1 town, 0.922 miles.

State Highway Reconnaissance. — Surveys in 70 towns, 175.947 miles.

Chapter 90 Reconnaissance. — Surveys in 5 towns, 6.577 miles. Precise levels in 141 towns, 716 miles.

Plans to accompany decrees for street railway locations on State highways have been made in 4 towns.

Permits. — There were 2,320 permits issued during the year for opening or occupying State highways for various purposes.

Engineering Advice to Municipal Authorities. — The Department furnished without charge engineering advice to 27 cities and towns in accordance with the provisions of section 1, chapter 81 of the General Laws.

Approval of Specifications. — The Department approved during the year, under the provisions of section 7, chapter 44 of the General Laws, as amended, specifications for the construction of roads in 46 towns and cities.

Approval of Bridge Plans. — The Department approved during the year, under the provisions of chapter 313 of the Acts of 1923, plans for the construction of bridges in 10 towns and cities.

PETITIONS, MEETINGS AND HEARINGS

In addition to the regular weekly meetings of the Department throughout the year, numerous hearings and conferences have been held, including the annual hearings in the several counties in the Commonwealth for the open discussion of questions relating to the public ways, as required by section 1, chapter 81, General Laws; hearings on petitions for the amendment or revision of permits for the operation of bus lines in 40 cases; appeals from the action taken by the Registrar of Motor Vehicles in the suspension or revocation of certain licenses to operate motor vehicles in 52 cases; on the matter of outdoor advertising in 14 cases; on the matter of special regulations for motor vehicles in Somerville, Peabody and Boston; on petitions for the relocation of street railway tracks in Andover, Shrewsbury and Westborough; on a petition protesting against the changing of the names of two parks in the city of Fall River; on the disposal of certain used motor vehicles and the licensing of motor vehicle junk yards; on a regulation concerning motor vehicles equipped with radio receiving sets; and on a petition requesting the adoption of rules and regulations governing the use of Round Hills Airport in the town of Dartmouth.

Petitions were received and contracts signed during the year as follows: —

	Petitions	Contracts
State highways	40	76
Work under section 34, chapter 90, General Laws, as amended	141	409
Work under section 26, chapter 81, General Laws, as amended	171	170
Work under Special Act		1
	<hr/> 352	<hr/> 656

STATE HIGHWAYS

PETITIONS FOR STATE HIGHWAYS

- General Laws, chapter 81, section 4, provides that —
- “If county commissioners, aldermen or selectmen adjudge that public necessity and convenience require that the Commonwealth lay out and take charge of a new or existing way as a highway in whole or in part, in their county, city or town, they may apply, by a written petition, to the division, requesting that said way be laid out and taken charge of by the commonwealth.”
- Petitions under the aforesaid section have been received during the year, as follows: —
- SELECTMEN OF DALTON. — Road extending from a point on North Street about 7,450 feet distant westerly from the dividing line between the towns of Dalton and Windsor to the junction of North and Main Streets. Received Feb. 8, 1930.
- SELECTMEN OF SANDWICH. — Road extending from the dividing line between the towns of Bourne and Sandwich, over a new location, to a point near the fish hatchery of the State Department of Conservation. Received Feb. 6, 1930.
- MAYOR AND BOARD OF ALDERMEN OF WOBURN. — Road locally known as Salem Street, extending from the junction of Cedar and Salem Streets to the dividing line between the city of Woburn and the town of Stoneham. Received Feb. 28, 1930.
- SELECTMEN OF PEMBROKE. — Road extending from a point on North Street near Schooset Street to the dividing line between the towns of Pembroke and Hanover. Received Mar. 4, 1930.
- SELECTMEN OF HANOVER. — Road extending from a point on Washington Street near the property of Otis Miller south-easterly, over a new location, to a point on Washington Street near Pond Street (distance about 2,500 feet). Also road extending from a point on Washington Street near Hanover Street south-easterly, over a new location, to the dividing line between the towns of Hanover and Pembroke (distance about 6,100 feet). Received Mar. 4, 1930.
- SELECTMEN OF NORTH ANDOVER. — Road extending from a point on the Salem Turnpike about 2,500 feet southerly from Wilson’s Corner southerly to the dividing line between the towns of North Andover and Andover. Received Mar. 11, 1930.
- SELECTMEN OF ANDOVER. — Road extending from a point on Main Street near the North Reading town line northerly to the dividing line between the towns of Andover and North Andover. Received Mar. 11, 1930.
- SELECTMEN OF MIDDLEBOROUGH. — Road locally known as Bedford Street, extending from the dividing line between the towns of Bridgewater and Middleborough to the dividing line between the towns of Middleborough and Lakeville. Also road extending from Bedford Street to Wareham Street over a new location and Grove Street. Received Mar. 20, 1930.
- SELECTMEN OF BRIDGEWATER. — Road locally known as Bedford Street, extending from Bridgewater Square to the dividing line between the towns of Bridgewater and Middleborough. Received Mar. 19, 1930.
- SELECTMEN OF HANOVER. — Road extending from the junction of Washington and Mill Streets, over a new location, to a point about 1,500 feet northerly from said junction, near the property now or formerly of Addie T. Howard. Received Mar. 25, 1930.
- SELECTMEN OF SUTTON. — Road locally known as the Old Hartford Turnpike, extending from the dividing line between the towns of Oxford and Sutton to

the dividing line between the towns of Sutton and Northbridge. Received April 1, 1930.

SELECTMEN OF STONEHAM. — Road locally known as North Street, extending from the dividing line between the town of Stoneham and city of Woburn to the dividing line between the towns of Stoneham and Wakefield. Received April 8, 1930.

SELECTMEN OF LAKEVILLE. — Road locally known as Taunton Street, extending from the dividing line between the city of Taunton and the town of Lakeville to the dividing line between the towns of Lakeville and Middleborough. Received April 14, 1930.

SELECTMEN OF LEE. — Road extending from a point on the Stockbridge Road in the village of East Lee, near the property now or formerly of James Bianchi, to a point in said village on the Becket Road, near the property now or formerly of Clark Aiken. Received May 5, 1930.

SELECTMEN OF WILMINGTON. — Road locally known as Lowell Street, extending from the dividing line between the towns of Reading and Wilmington to a point about one and one-half miles distant northwesterly from said dividing line. Received May 19, 1930.

SELECTMEN OF SHREWSBURY. — Road locally known as the Worcester Turnpike, extending from the junction of said Turnpike and Maple Avenue to the dividing line between the towns of Shrewsbury and Northborough. Received May 24, 1930.

SELECTMEN OF NORTHBOROUGH. — Road locally known as the Worcester Turnpike, extending from the dividing line between the towns of Shrewsbury and Northborough to the dividing line between the towns of Northborough and Westborough. Received May 24, 1930.

SELECTMEN OF WESTBOROUGH. — Road locally known as the Worcester Turnpike, extending from the dividing line between the towns of Northborough and Westborough to the dividing line between the towns of Westborough and Southborough. Received May 24, 1930.

SELECTMEN OF SOUTHBOROUGH. — Road locally known as the Worcester Turnpike, extending from the dividing line between the towns of Westborough and Southborough to White's Corner. Received May 24, 1930.

SELECTMEN OF MILTON. — Road locally known as Randolph Avenue, extending from the dividing line between the city of Quincy and the town of Milton to Highland Street. Received June 23, 1930.

SELECTMEN OF NORTH ATTLEBOROUGH. — Road extending from a point on Washington Street near Hoppin Hill Avenue, over a new location in whole or in part, to a point on Washington Street near Park Street. Received June 26, 1930.

SELECTMEN OF AVON. — Road extending from a point on East Main Street at or near East Street, over a new location, to the dividing line between the town of Avon and the city of Brockton at North Montello Street Extension. Received July 29, 1930.

SELECTMEN OF ABINGTON. — Road locally known as Brockton Avenue, extending from the westerly side of Bedford Street to a point near Elm Street. Received Aug. 7, 1930.

BRISTOL COUNTY COMMISSIONERS. — Road in Attleboro, extending from the dividing line between the State of Rhode Island and the Commonwealth of Massachusetts at Newport Avenue along Newport Avenue to Highland Avenue and thence along Washington Street to a point near Vernal Street. Received Aug. 16, 1930.

MAYOR AND ALDERMEN OF BROCKTON. — Road locally known as North Montello Street, extending from the dividing line between the town of Avon and the city of Brockton to the junction of North Montello and Albion Streets. Received Aug. 13, 1930.

MIDDLESEX COUNTY COMMISSIONERS. — Road extending from the terminus of the State highway on the easterly side of the Merrimack River in Tyngsborough westerly across the Merrimack River and the Boston and Maine Railroad, by a new location for the bridge, to a point near the junction of the State

highway on the westerly side of the river with the road leading from Tyngsborough to Dunstable. Received Sept. 23, 1930.

SELECTMEN OF UPTON. — Road locally known as the Boston-Hartford Turnpike, extending from the dividing line between the towns of Northbridge and Upton to the dividing line between the towns of Upton and Hopkinton. Received Sept. 11, 1930.

NORFOLK COUNTY COMMISSIONERS. — Road extending from the dividing line between the towns of Hingham and Cohasset to the dividing line between the towns of Scituate and Cohasset, in the town of Cohasset. Received April 24, 1930.

SELECTMEN OF TEMPLETON. — Road locally known as Main Street, extending from the G. A. R. Hall in East Templeton Village westerly to a point near the property now or formerly of P. W. Angel in Templeton Village. Received Oct. 8, 1930.

SELECTMEN OF ORANGE. — Road locally known as the Old Athol Road, extending from the Athol Road to the dividing line between the towns of Orange and Athol. Received Nov. 10, 1930.

SELECTMEN OF ATHOL. — Road locally known as the Old Orange Road, extending from South Main Street to the dividing line between the towns of Athol and Orange. Received Nov. 8, 1930.

SELECTMEN OF ASHFIELD. — Road locally known as the Conway Road and Main Street, extending from the dividing line between the towns of Ashfield and Conway to the Buckland Road. Received Nov. 7, 1930.

SELECTMEN OF CHESTER. — Road extending from a point on the Huntington Road at or near the property of George B. Tracy, over a new location south of the Boston & Albany Railroad to the dividing line between the towns of Chester and Huntington. Received Nov. 13, 1930.

SELECTMEN OF HUNTINGTON. — Road extending from a point on the Chester Road just south of the Boston and Albany Railroad grade crossing to the dividing line between the towns of Huntington and Chester, over a new location. Received Nov. 14, 1930.

SELECTMEN OF HOPEDALE. — Road locally known as South Main Street, extending from the dividing line between the towns of Milford and Hopedale to the dividing line between the towns of Hopedale and Mendon. Received Nov. 15, 1930.

SELECTMEN OF MENDON. — Road extending from a point on the Milford-Bellingham Road near the property of Eustachio Pettinelli, over a new location, to the dividing line between the towns of Mendon and Bellingham. Received Nov. 15, 1930.

SELECTMEN OF MILFORD. — Road locally known as Prospect, Elm, Courtland and South Main Streets, extending from West Street at its junction with Prospect Street to the dividing line between the towns of Milford and Hopedale. Received Nov. 15, 1930.

SELECTMEN OF BOURNE. — Road extending from a point on the Plymouth Road near the Swift Memorial Methodist Church, over a new location, to the government line on the north end of the Sagamore Bridge over the Cape Cod Canal. Received Nov. 20, 1930.

SELECTMEN OF BARNSTABLE. — Road extending from a point on the Falmouth Road in Marstons Mills near the property of the Estate of William Weeks, over a new location, to a point on Pine Street near the property of J. Leo Murphy. Received Nov. 22, 1930.

SELECTMEN OF WESTON. — Road extending from a point on the Boston Post Road near Highland Street, over a new location, to a point on said Boston Post Road near Wellesley Street. Received Nov. 28, 1930.

CONSTRUCTION AND RECONSTRUCTION OF STATE HIGHWAYS (Chapter 81, General Laws, as amended)

The following contracts were entered into during the year for the construction and reconstruction of State highways, and work incidental thereto, in various municipalities: —

Natick

Dec. 10, 1929, contract made with Sherry Construction Company, Inc., of Fall River, for reconstructing about 10,925 feet of State highway on West Central Street, the surface consisting of bituminous macadam between two sections of reinforced cement concrete. The proposal amounted to \$106,299.40. Work completed July 2, 1930. Expenditure during 1930, \$118,332.00.

Natick-Wellesley

Dec. 10, 1929, contract made with B. Perini & Sons, Inc., of Ashland, for reconstructing about 5,995 feet of State highway on East Central Street in Natick, and about 6,209 feet of State Highway on Central Street in Wellesley, the surface consisting of bituminous macadam between two sections of reinforced cement concrete. The proposal amounted to \$132,626.80. Work completed Aug. 15, 1930. Expenditure during 1930, \$150,619.16.

Barre

Dec. 17, 1929, contract made with Frank & Frank Construction Co., of Providence, R. I., for reconstructing about 8,953 feet of State highway on the Oakham-Petersham Road, the surface consisting of bituminous macadam. The proposal amounted to \$53,099.35. Work completed Aug. 9, 1930. Expenditure during 1930, \$51,355.30.

Gardner-Templeton

Dec. 24, 1929, contract made with the Fitchburg Concrete Construction Company, for reconstructing about 12,427 feet of State highway on the Templeton Road in Gardner, and about 10,533 feet of State highway on the same road in Templeton, the surface consisting of bituminous macadam. The proposal amounted to \$153,595.75. Work completed Sept. 22, 1930. Expenditure during 1930, \$152,863.41.

Marion

Dec. 24, 1929, contract made with Joseph McCormick, of East Providence, R. I., for reconstructing about 24,067 feet of State highway on the Wareham Road, the surface consisting of bituminous macadam. The proposal amounted to \$168,919.50. Work completed July 29, 1930. Expenditure during 1930, \$174,052.68.

Hingham-Weymouth

Dec. 24, 1929, contract made with Frank Lanza & Sons, of Boston, for reconstructing about 824 feet of State highway on Whiting Street in Hingham, and about 11,040 feet of State highway on Washington Street in Weymouth, the surface consisting of bituminous macadam. The proposal amounted to \$96,429.90. Work completed July 26, 1930. Expenditure during 1930, \$88,023.24.

Reading-Stoneham

Dec. 31, 1929, contract made with Angelo Susi & Company of Boston, for reconstructing about 6,625 feet of State highway on Main Street in Reading, and about 5,362 feet of State highway on the same road in Stoneham, the surface consisting of bituminous macadam between two sections of reinforced cement concrete. The proposal amounted to \$140,264.50. Work completed Aug. 28, 1930. Expenditure during 1930, \$176,805.85.

Erving

Dec. 31, 1929, contract made with the Kelleher Corporation, of Montague, for reconstructing about 16,973 feet of State highway on the Millers Falls Road, the surface consisting of bituminous macadam. The proposal amounted to \$152,315.60. Work completed Aug. 30, 1930. Expenditure during 1930, \$161,715.84.

Ipswich-Rowley-Newbury-Newburyport

Jan. 7, 1930, contract made with Patrick J. Holland, of Lawrence, for resurfacing and widening the Newburyport Turnpike, about 3,438 feet in Ipswich, about 18,677 feet in Rowley, about 20,783 feet in Newbury, and about 1,971 feet in

Newburyport, the surface consisting of reinforced cement concrete for 38,715 feet and of bituminous macadam for 6,153 feet. The proposal amounted to \$344,802.05. Work completed Oct. 24, 1930. Expenditure during 1930, \$354,370.51.

Orange

Jan. 14, 1930, contract made with the Kelleher Corporation, of Montague, for reconstructing about 13,770 feet of State highway on the Erving Road, the surface consisting of bituminous macadam. The proposal amounted to \$119,429.85. Work completed Sept. 8, 1930. Expenditure during 1930, \$126,038.33.

Abington

Mar. 11, 1930, contract made with Powers Brothers, of Brockton, for constructing about 5,672 feet of State highway on Bedford and Washington Streets, the surface consisting of bituminous macadam. The proposal amounted to \$59,843.75. Work completed July 19, 1930. Expenditure during 1930, \$59,246.91.

Bourne-Sandwich

Mar. 11, 1930, contract made with Sidney W. Lawrence, of Falmouth, for constructing about 26,720 feet of State highway on the County Road in Bourne, and about 12,484 feet of State highway on the same road in Sandwich, the surface consisting of bituminous concrete. The proposal amounted to \$289,492.00. Work about seven-eighths completed. Expenditure during 1930, \$244,055.06.

Florida-Savoy-Charlemont

Mar. 12, 1930, contract made with D'Onfro Brothers, Inc., of Leominster, for making surface repairs, smoothing slopes, etc., on the Mohawk Trail in Florida, Savoy and Charlemont. The proposal amounted to \$500.00. Work completed June 27, 1930. Expenditure during 1930, \$486.25.

Canton

Mar. 25, 1930, contract made with Reynolds Brothers, Inc., of Canton, for resurfacing and widening about 1,200 feet of State highway on Turnpike and Washington Streets, the surface consisting of bituminous macadam. The proposal amounted to \$6,508.75. Work completed July 3, 1930. Expenditure during 1930, \$11,546.23.

Quincy

Mar. 25, 1930, contract made with Ezekiel C. Sargent, of Quincy, for reconstructing about 2,745 feet of State highway on Washington Street, the surface consisting of bituminous macadam and waterbound macadam. The proposal amounted to \$19,939.50. Work completed May 29, 1930. Expenditure during 1930, \$19,151.10.

Williamstown

Mar. 25, 1930, contract made with D. S. McGrath, Inc., of Adams, for constructing a bridge and approaches on about 1,600 feet of State highway on the River Road, the surface consisting of bituminous macadam. The proposal amounted to \$26,767.70. Work completed July 31, 1930. Expenditure during 1930, \$27,237.90.

Hanover-Pembroke

Mar. 25, 1930, contract made with Arute Brothers, Inc., of New Britain, Conn., for constructing and reconstructing about 22,847 feet of State highway on Washington Street and new location in Hanover, and about 1,931 feet of State highway on new location and North Street in Pembroke, the surface consisting of bituminous macadam. The proposal amounted to \$264,291.80. Work completed Sept. 23, 1930. Expenditure during 1930, \$259,860.26.

Littleton

Mar. 25, 1930, contract made with DiGregorio Brothers & Company, of Worcester, for reconstructing about 4,100 feet of State highway on the Ayer Road, the surface consisting of bituminous macadam. The proposal amounted to \$16,555.20. Work completed June 24, 1930. Expenditure during 1930, \$15,017.91.

Brewster-Orleans

April 8, 1930, contract made with the Lane Construction Corporation, of Meriden, Conn., for reconstructing about 41,042 feet of State highway on the North County Road in Brewster, and about 453 feet of State highway on the same road in Orleans, the surface consisting of bituminous concrete. The proposal amounted to \$206,220.80. Work about seven-eighths completed. Expenditure during 1930, \$181,646.99.

Taunton-Dighton-Rehoboth

April 8, 1930, contract made with the Sherry Construction Company, Inc., of Fall River, for reconstructing about 30,168 feet of State highway on the Providence Turnpike, 10,234 feet being in Taunton, 8,225 feet in Dighton, and 11,709 feet in Rehoboth, the surface consisting of reinforced cement concrete with bituminous macadam shoulders. The proposal amounted to \$265,955.15. Work practically completed. Expenditure during 1930, \$264,548.38.

Williamstown

April 8, 1930, contract made with the Kelleher Corporation, of Montague, for constructing about 23,088 feet of State highway on the Petersburg Mountain and Cold Spring Roads, the surface consisting of bituminous macadam. The proposal amounted to \$105,975.00. Work completed Aug. 5, 1930. Expenditure during 1930, \$95,426.18.

Billerica

April 8, 1930, contract made with Antonio Pallotto, of Dracut, for reconstructing about 10,025 feet of State highway on the Boston-Lowell Road, the surface consisting of bituminous macadam. The proposal amounted to \$81,455.10. Work completed Sept. 6, 1930. Expenditures during 1930, \$83,436.45.

West Springfield

April 15, 1930, contract made with Daniel O'Connell's Sons, of Holyoke, for reconstructing about 8,182 feet of State highway on Westfield Street, the surface consisting of reinforced cement concrete with bituminous macadam shoulders. The proposal amounted to \$120,219.05. Work completed Aug. 1, 1930. Expenditure during 1930, \$126,029.28.

Dalton

April 15, 1930, contract made with D. S. McGrath, Inc., of Adams, for constructing about 7,263 feet of State highway on North Street, the surface consisting of bituminous macadam. The proposal amounted to \$79,896.25. Work completed Oct. 8, 1930. Expenditure during 1930, \$68,392.70.

Sandisfield

April 15, 1930, contract made with P. J. Kennedy & Company, Inc., of Holyoke, for constructing a steel bridge and the approaches thereto on the State highway known as the New Boston Road, the surface over the bridge consisting of bituminous concrete, the surface of the approaches consisting of bituminous macadam. The proposal amounted to \$33,606.00. Work completed Nov. 25, 1930. Expenditure during 1930, \$30,330.03.

Middleborough-Bridgewater

April 29, 1930, contract made with Powers Brothers, of Brockton, for constructing about 19,183 feet of State highway on Bedford Street in Bridgewater, and about 12,600 feet of State highway on Bedford Street and new location in Middleborough, the surface consisting of bituminous macadam between two sections of reinforced cement concrete. The proposal amounted to \$429,525.80. Work completed Nov. 24, 1930. Expenditure during 1930, \$410,431.26.

Middleborough

May 6, 1930, contract made with Frank Lanza & Sons, of Boston, for constructing and reconstructing about 31,397 feet of State highway on new location, Grove

Street and Wareham Street, the surface consisting of bituminous macadam. The proposal amounted to \$258,540.40. Work practically completed. Expenditure during 1930, \$275,774.89.

Lee

May 20, 1930, contract made with David W. Dwyer, of Dalton, for constructing and reconstructing 1,412 feet of State highway to form northerly and easterly approaches to the Becket-Pittsfield Road, the surface consisting of bituminous macadam. The proposal amounted to \$13,263.35. Work completed Sept. 30, 1930. Expenditure during 1930, \$13,427.71.

Provincetown

May 20, 1930, contract made with Michael F. Roach & Sons, Inc., of East Bridgewater, for resurfacing about 13,640 feet of State highway on the Race Point Road, the surface consisting of bituminous concrete. The proposal amounted to \$39,121.00. Work completed Aug. 8, 1930. Expenditure during 1930, \$40,715.78.

Southborough

June 24, 1930, contract made with F. Pritchard & Son, Inc., of Watertown, for relocating barn and silo of the National Dairy Company on the State highway known as the Worcester Turnpike. The proposal amounted to \$4,390.00. Work completed Sept. 16, 1930. Expenditure during 1930, \$4,390.00.

Westborough-Southborough

July 8, 1930, contract made with B. Perini & Sons, Inc., of Ashland, for constructing about 23,860 feet of State highway on the Worcester Turnpike, 12,560 feet being in Westborough and 11,300 feet in Southborough, the surface consisting of two sections of reinforced cement concrete separated by a loamed space with bituminous macadam and gravel shoulders on the outer edges of the concrete. The proposal amounted to \$779,213.60. Work about one-fourth completed. Expenditure during 1930, \$262,879.64.

Shrewsbury

July 8, 1930, contract made with the Lane Construction Corporation, of Meriden, Connecticut, for constructing and reconstructing about 11,715 feet of State highway on the Worcester Turnpike, the surface consisting of reinforced cement concrete with bituminous concrete between street railway rails for about 2,500 feet, of reinforced cement concrete for about 2,003 feet, and for about 7,212 feet of two sections of reinforced cement concrete separated by a loamed space, with bituminous macadam and gravel shoulders on the outer edges of the concrete. The proposal amounted to \$426,855.70. Work about one-fourth completed. Expenditure during 1930, \$133,654.28.

Shrewsbury-Northborough-Westborough

July 15, 1930, contract made with Carlo Bianchi & Company, Inc., of Framingham, for constructing about 28,446 feet of State highway on the Worcester Turnpike, 10,718 feet being in Shrewsbury, 3,978 feet in Northborough and 13,750 feet in Westborough, the surface for about 8,500 feet consisting of two sections of reinforced cement concrete separated by a loamed space with bituminous macadam and gravel shoulders on the outer edges of the concrete, the surface on the balance of the roadway consisting of two sections of reinforced cement concrete separated by the double track street railway reservation. The proposal amounted to \$1,005,044.00. Work about one-fifth completed. Expenditure during 1930, \$263,115.80.

Westborough-Shrewsbury

July 15, 1930, contract made with The John Cavanagh & Son Building Moving Company, of Boston, for moving buildings on the State highway known as the Worcester Turnpike in Westborough and Shrewsbury, and doing work incidental thereto. The proposal amounted to \$9,984.00. Work completed Oct. 8, 1930. Expenditure during 1930, \$9,984.00.

Shrewsbury-Westborough

July 15, 1930, contract made with John Moran, Inc., of Fitchburg, for moving buildings on the State highway known as the Worcester Turnpike in Shrewsbury and Westborough, and doing work incidental thereto. The proposal amounted to \$17,400.00. Work completed Aug. 26, 1930. Expenditure during 1930, \$17,400.00.

Attleboro-North Attleborough

July 15, 1930, contract made with J. J. McHale & Sons, Inc., of Pawtucket, R. I., for widening about 4,397 feet of State highway on Washington Street in Attleboro and about 13,638 feet of State highway on the same road in North Attleborough, the surface consisting of reinforced cement concrete. The proposal amounted to \$154,507.10. Work completed Nov. 26, 1930. Expenditure during 1930, \$146,200.19.

Dudley-Southbridge

July 22, 1930, contract made with the Waterbury Road Construction Co., Inc., of Hartford, Conn., for constructing about 13,452 feet of State highway on the Southbridge Road in Dudley, and about 7,431 feet of State highway on the Dudley Road in Southbridge, the surface consisting of bituminous macadam. The proposal amounted to \$213,576.00. Work about three-fourths completed. Expenditure during 1930, \$155,885.24.

Randolph-Quincy-Milton

July 22, 1930, contract made with D. M. Biggs & Company, of Boston, for reconstructing about 10,245 feet of State highway on North Main Street in Randolph, and about 6,510 feet of State highway on Randolph Avenue in Quincy, and for constructing about 6,650 feet of State highway on Randolph Avenue in Milton, the surface consisting of bituminous macadam between two sections of reinforced cement concrete with bituminous macadam approaches and shoulders. The proposal amounted to \$253,283.90. Work nearly completed. Expenditure during 1930, \$214,272.77

Becket-Lee

July 22, 1930, contract made with the Lane Construction Corporation, of Meriden, Conn., for reconstructing about 26,162 feet of State highway on Jacob's Ladder in Becket, and about 11,916 feet of State highway on the same road in Lee, the surface consisting of bituminous macadam. The proposal amounted to \$282,590.00. Work about half completed. Expenditure during 1930, \$137,839.42.

Revere-Saugus

July 29, 1930, contract made with M. McDonough Co., of Saugus, for resurfacing about 3,193 feet of State highway on Broadway in Revere and about 4,038 feet of State highway on the same road in Saugus, the surface consisting of bituminous macadam. The proposal amounted to \$14,450.50. Work completed Sept. 20, 1930. Expenditure during 1930, \$17,351.75.

Northborough

Aug. 5, 1930, contract made with Burton H. Wiggin Company, of Boston, for relocating buildings on the land of F. E. Lawrence on the State highway in Northborough, known as the Worcester Turnpike. The proposal amounted to \$434.00. Work completed Aug. 23, 1930. Expenditure during 1930, \$434.00.

Shrewsbury

Aug. 5, 1930, contract made with F. Pritchard & Son, Inc., of Watertown, for relocating buildings on the land of Fred S. Holden on the State highway in Shrewsbury, known as the Worcester Turnpike. The proposal amounted to \$4,250.00. Work completed Oct. 10, 1930. Expenditure during 1930, \$4,250.00.

Westborough

Aug. 5, 1930, contract made with The John Cavanagh and Son Building Moving Co., of Boston, for relocating a building on the land of Lewis W. Wynott on the

State highway in Westborough, known as the Worcester Turnpike. The proposal amounted to \$1,039.00. Work completed Sept. 13, 1930. Expenditure during 1930, \$1,039.00.

North Attleborough

Aug. 5, 1930, contract made with B. Perini & Son, Inc., of Ashland, for constructing about 11,450 feet of State highway on Washington Street, new location and Jefferson Street in North Attleborough, the surface consisting of reinforced cement concrete and bituminous macadam. The proposal amounted to \$269,800.00. Work practically completed. Expenditure during 1930, \$222,503.15.

Shrewsbury

Aug. 5, 1930, contract made with John Moran, Inc., of Fitchburg, for relocating buildings on the land of William O. and Alice M. Spooner on the State highway in Shrewsbury, known as the Worcester Turnpike. The proposal amounted to \$3,250.00. Work completed Sept. 15, 1930. Expenditure during 1930, \$3,250.00.

Avon-Brockton

Sept. 2, 1930, contract made with Powers Brothers, of Brockton, for constructing and reconstructing about 5,544 feet of State highway on East Main Street in Avon and about 6,119 feet of State highway on North Montello Street extension in Brockton, the surface consisting of bituminous macadam between two strips of reinforced cement concrete. The proposal amounted to \$147,733.95. Work about one-half completed. Expenditure during 1930, \$65,091.29.

Avon

Sept. 9, 1930, contract made with James J. Gordon, of Hingham, for moving a building on the State highway in Avon, known as East Main Street. The proposal amounted to \$1,625.00. Work completed Oct. 11, 1930. Expenditure during 1930, \$1,875.00.

Avon

Sept. 9, 1930, contract made with C. O. Harden & Son, of Brockton, for moving buildings and doing all incidental work in connection therewith on the State highway in Avon, known as East Main Street. The proposal amounted to \$5,887.00. Work about completed. Expenditure during 1930, \$4,675.00.

Shrewsbury

Sept. 16, 1930, contract made with The John Cavanagh & Son Building Moving Co., of Boston, for moving buildings and doing all incidental work in connection therewith on the State highway in Shrewsbury, known as the Worcester Turnpike. The proposal amounted to \$8,650.00. Work about completed. Expenditure during 1930, \$7,210.55.

North Attleborough-Attleboro

Sept. 16, 1930, contract made with Joseph J. England, of New Bedford, for moving buildings and doing all incidental work in connection therewith on the State highway in North Attleborough and Attleboro, known as Washington Street. The proposal amounted to \$4,935.00. Work practically completed. Expenditure during 1930, \$3,910.00.

Waltham-Weston

Sept. 23, 1930, contract made with Joseph P. McCabe, Inc., of Boston, for constructing a bridge and approaches on about 1,480 feet of State highway at the dividing line between the city of Waltham and town of Weston, the surface over the bridge consisting of bituminous concrete and the surface of the approaches consisting of bituminous macadam. The proposal amounted to \$72,109.55. Work about one-sixth completed. Expenditure during 1930, \$12,515.11.

Shrewsbury

Sept. 30, 1930, contract made with Burton H. Wiggin Company, of Boston, for relocating building on the land of Mrs. Mary I. Moroney on the State high-

way in Shrewsbury, known as the Worcester Turnpike. The proposal amounted to \$1,671.00. Work about completed. Expenditure during 1930, \$1,406.15.

Bridgewater-East Bridgewater

Sept. 30, 1930, contract made with Arute Bros., Incorporated, of New Britain, Conn., for reconstructing about 5,667 feet of State highway on Broad Street in Bridgewater and about 9,096 feet of State highway on Bedford Street in East Bridgewater, the surface consisting of bituminous macadam. The proposal amounted to \$128,842.10. Work about one-sixth completed. Expenditure during 1930, \$22,909.77.

Fairhaven-New Bedford

Sept. 30, 1930, contract made with the National Gunitite Contracting Co., of Boston, for filling joints in the stone masonry of the Fairhaven-New Bedford Bridge in Fairhaven and New Bedford. The proposal amounted to \$2,147.60. Work completed Nov. 21, 1930. Expenditure during 1930, \$1,649.93.

Shrewsbury

Oct. 7, 1930, contract made with Ralph H. White, of Auburn, for constructing wells on private property adjoining the State highway in Shrewsbury, known as the Worcester Turnpike. The proposal amounted to \$1,000.00. Work about four-fifths completed. Expenditure during 1930, \$873.97.

Attleboro

Oct. 7, 1930, contract made with Jeremiah O'Leary, of Sharon, for removing and relocating a building on the land of Charles H. Fuller on the State highway in Attleboro, known as Washington Street. The proposal amounted to \$2,175.00. Work completed Nov. 12, 1930. Expenditure during 1930, \$1,785.00.

Dedham

Oct. 8, 1930, contract made with B. Perini & Sons, Inc., of Ashland, for reconstructing about 4,200 feet of State highway on Washington Street in Dedham, the surface consisting of reinforced cement concrete. The proposal amounted to \$54,048.60. Work practically completed. Expenditure during 1930, \$46,879.23.

Tyngsborough

Oct. 8, 1930, contract made with Simpson Bros. Corporation, of Boston, for constructing a steel bridge over the Merrimack River, a steel bridge over the Boston & Maine Railroad, two concrete bridges over a brook, and about 1,245 feet of roadway on the State highway in Tyngsborough, the surface of the bridge over the river consisting of an asphaltic emulsion wearing surface, the surface of the bridge over the railroad consisting of bituminous concrete, and the surface of the remainder of the road consisting of bituminous macadam. The proposal amounted to \$389,191.90. Work just begun. Expenditure during 1930, \$5,928.75.

Randolph

Oct. 8, 1930, contract made with Powers Brothers, of Brockton, for widening about 9,540 feet of State highway in Randolph on the road leading to Avon, the surface consisting of reinforced cement concrete. The proposal amounted to \$42,436.50. Work practically completed. Expenditure during 1930, \$35,686.45.

Avon

Oct. 8, 1930, contract made with James J. Gordon, of Hingham, for moving house on land of Wilfred J. Richard and store on land of David Fraser on the State highway in Avon, known as East Main Street. The proposal amounted to \$2,450.00. Work practically completed. Expenditure during 1930, \$1,955.00.

Dedham

Oct. 8, 1930, contract made with F. Pritchard & Son, Inc., of Watertown, for relocating barn on the Chickering Home property on the State highway in Dedham. The proposal amounted to \$2,980.00. Work practically completed. Expenditure during 1930, \$2,279.70.

Shrewsbury

Oct. 14, 1930, contract made with John Moran, Inc., of Fitchburg, for moving building or buildings on land of Herbert Mitchell on the State highway in Shrewsbury, known as the Worcester Turnpike. The proposal amounted to \$2,549.00. Work not yet commenced.

Windsor

Oct. 14, 1930, contract made with Kelleher Corp., of Montague, for reconstructing about 15,959 feet of State highway on the Berkshire Trail in Windsor, the surface consisting of bituminous macadam. The proposal amounted to \$134,885.10. Work about one-ninth completed. Expenditure during 1930, \$15,694.87.

Dedham

Oct. 28, 1930, contract made with F. Pritchard & Son, Inc., of Watertown, for removing and relocating house and garage of Mary T. O'Leary on the State highway in Dedham. The proposal amounted to \$1,580.00. Work practically completed. Expenditure during 1930, \$1,208.70.

Buckland

Nov. 4, 1930, contract made with Thomas J. Harvey, of Adams, for reconstructing about 910 feet of State highway on the Ashfield Road in Buckland, the surface consisting of bituminous macadam. The proposal amounted to \$10,070.25. Work not yet commenced.

Attleboro

Nov. 4, 1930, contract made with Patrick J. Holland, of Lawrence, for constructing a bridge and about 9,687 feet of State highway on Newport Avenue in Attleboro, the surface of the roadway, except on approaches and over the bridge, consisting of reinforced cement concrete, the surface of the approaches consisting of bituminous macadam, and the surface over the bridge consisting of bituminous concrete. The proposal amounted to \$180,173.20. Work about one-fifth completed. Expenditure during 1930, \$28,613.97.

Charlemont

Nov. 4, 1930, contract made with Kelleher Corporation, of Montague, for constructing about 2,324 feet of State highway on the Mohawk Trail and new location in Charlemont, the surface consisting of bituminous macadam. The proposal amounted to \$34,182.00. Work about one-sixth completed. Expenditure during 1930, \$5,204.75.

Tyngsborough

Nov. 12, 1930, contract made with Antonio Pallotto, of Dracut, for removing buildings of Nancy Braddon and demolishing and removing various other buildings on the State highway in Tyngsborough. The proposal amounted to \$4,000.00. Work about one-fourth completed. Expenditure during 1930, \$1,500.00.

Wareham

Nov. 18, 1930, contract made with Arthur K. Finney, of Plymouth, for reconstructing a bridge and approaches thereto on about 1,950 feet of State highway on Agawam Road in Wareham, the surface consisting of bituminous macadam. The proposal amounted to \$42,614.00. Work not yet commenced.

Palmer-Monson

Nov. 18, 1930, contract made with the Lee Construction Company, of Boston, for constructing and reconstructing a steel plate girder and steel stringer bridge over the Boston & Albany Railroad, a reinforced concrete beam bridge over the Quaboag River, about 1,911 feet of State highway on the Boston Post Road, and about 2,208 feet of State highway on the Brimfield Road in Palmer and Monson, the surface on the Boston Post Road consisting of reinforced cement concrete, and the surface on the Brimfield Road consisting of bituminous macadam. The proposal amounted to \$158,672.13. Work not yet commenced.

Erving

Nov. 19, 1930, a contract made with Ralph H. White, of Auburn, for constructing a well on the Mezerall property adjoining the State highway in the town of Erving. The proposal amounted to \$250.00. Work not yet commenced.

Ashfield-Conway

Nov. 25, 1930, contract made with Kelleher Corporation, of Montague, for constructing about 18,189 feet of State highway on the Ashfield Road in Conway and about 19,149 feet of State highway on the same road in Ashfield, the surface consisting of bituminous macadam. The proposal amounted to \$251,667.40. Work not yet commenced.

Athol-Orange

Nov. 25, 1930, contract made with G. Rosse & Son, of Leominster, for constructing about 2,510 feet of State highway on the Old Orange Road in Athol and about 5,648 feet of State highway on the same road in Orange, the surface consisting of bituminous macadam. The proposal amounted to \$74,608.50. Work not yet commenced.

Shrewsbury

Nov. 25, 1930, contract made with John Moran, Inc., of Fitchburg, for moving building or buildings on the land of Henry N. Dufresne on the State highway in Shrewsbury, known as the Worcester Turnpike. The proposal amounted to \$2,071.00. Work not yet commenced.

Shrewsbury

Nov. 26, 1930, contract made with John Moran, Inc., of Fitchburg, for moving building or buildings of Sam Lainer on the State highway in Shrewsbury, known as the Worcester Turnpike. The proposal amounted to \$2,150.00. Work not yet commenced.

Shrewsbury

Nov. 25, 1930, contract made with Burton H. Wiggin Company, of Boston, for moving building or buildings of Jennie L. Granger on the State highway in Shrewsbury, known as the Worcester Turnpike. The proposal amounted to \$5,071.00. Work not yet commenced.

EXPENDITURES FOR THE CONSTRUCTION OF STATE HIGHWAYS

The expenditures for the construction of State highways in various counties during the year were: —

Barnstable, \$414,355.48	Hampshire, \$14,778.18
Berkshire, \$361,095.14	Middlesex, \$25,427.56
Bristol, \$328,866.92	Norfolk, \$69,747.18
Essex, \$255,016.88	Plymouth, \$1,040,391.26
Franklin, \$6,320.64	Worcester, \$1,051,463.67
Hampden, \$73,519.07	Total, \$3,640,981.98

Details of the foregoing expenditures follow: —

Barnstable County. — Bourne, \$148,536.80; Falmouth, \$12,800.09; Provincetown, \$112,551.58; Sandwich, \$140,467.01.

Berkshire County. — Dalton, \$69,183.99; Florida, \$3,600.71; Great Barrington, \$210.33; Lanesborough, \$64,826.14; Lee, \$9,229.63; New Ashford, \$13,220.00; Pittsfield, \$3,309.32; Sandisfield, \$54,324.89; Williamstown, \$143,190.13.

Bristol County. — Attleborough, \$34,085.28; Mansfield, \$8,745.51; North Attleborough, \$262,504.00; Norton, \$22,654.11; Rehoboth, \$215.55; Seekonk, \$215.55; Swansea, \$446.92.

Essex County. — Gloucester, \$6,863.49; Newbury, \$248,153.39.

Franklin County. — Ashfield, \$49.38; Charlemont, \$6,197.50; Conway, \$49.38; Orange, \$24.38.

Hampden County. — Chester, \$68,373.03; Holland, \$611.33; Monson, \$31.73; Palmer, \$2,089.17; Tolland, \$2,413.81.

Hampshire County. — Easthampton, \$14,315.45; South Hadley, \$462.73.

Middlesex County. — Tyngsborough, \$7,174.57; Waltham, \$7,473.91; Weston, \$7,534.06; Woburn, \$3,245.02.

Norfolk County. — Avon, \$7,720.71; Braintree, \$31.41; Dedham, \$47.75; Milton, \$44,336.15; Wrentham, \$17,611.16.

Plymouth County. — Abington, \$71,574.14; Bridgewater, \$287,093.11; Brockton, \$1,340.66; Hanover, \$135,263.83; Mattapoisett, \$1.14; Middleborough, \$490,553.43; Pembroke, \$54,564.95.

Worcester County. — Ashburnham, \$462.73; Athol, \$24.37; Charlton, \$15,249.78; Dudley, \$117,437.92; Gardner, \$22,024.85; Northborough, \$38,314.85; Shrewsbury, \$268,778.09; Southborough, \$119,387.84; Southbridge, \$64,950.06; Sturbridge, \$93,470.47; Westborough, \$311,150.09; Westminster, \$94.80; Winchendon, \$117.82.

MAINTENANCE AND REPAIR OF STATE HIGHWAYS

(Section 13, Chapter 81, General Laws, and Chapter 146, Acts of 1929)

The expenditures during the year in various counties were: —

Barnstable, \$369,129.32	Middlesex, \$767,149.73
Berkshire, \$495,460.27	Nantucket, \$677.78
Bristol, \$705,413.38	Norfolk, \$789,037.06
Dukes, \$9,869.54	Plymouth, \$570,372.04
Essex, \$984,991.15	Suffolk, \$29,483.43
Franklin, \$544,091.85	Worcester, \$575,014.96
Hampden, \$508,926.90	Total, \$6,519,100.78
Hampshire, \$169,483.37	

Details of the foregoing expenditures follow: —

Barnstable County. — Barnstable, \$7,827.97; Bourne, \$19,667.65; Brewster, \$222,246.14; Chatham, \$3,017.06; Dennis, \$29,485.94; Eastham, \$1,707.68; Falmouth, \$7,278.27; Harwich, \$1,824.74; Mashpee, \$5,479.54; Orleans, \$4,494.64; Provincetown, \$51,810.53; Sandwich, \$5,647.11; Truro, \$3,030.39; Wellfleet, \$1,958.09; Yarmouth, \$3,653.57.

Berkshire County. — Adams, \$2,570.33; Becket, \$156,368.40; Cheshire, \$4,095.28; Clarksburg, \$8,030.85; Dalton, \$5,839.60; Egremont, \$7,370.87; Florida, \$72,097.31; Great Barrington, \$15,031.51; Hancock, \$2,898.26; Hinsdale, \$2,754.35; Lanesborough, \$6,348.86; Lee, \$43,016.22; Lenox, \$8,902.31; New Ashford, \$2,370.39; New Marlborough, \$110.77; North Adams, \$48,148.35; Otis, \$3,483.31; Pittsfield, \$14,089.46; Richmond, \$1,643.50; Sandisfield, \$3,097.88; Savoy, \$28,815.96; Sheffield, \$11,474.22; Stockbridge, \$3,873.76; Washington, \$1,969.57; West Stockbridge, \$540.55; Williamstown, \$17,733.94; Windsor, \$22,784.46.

Bristol County. — Acushnet, \$3,875.35; Attleborough, \$64,573.85; Berkley, \$555.57; Dartmouth, \$4,758.66; Dighton, \$93,517.47; Easton, \$6,349.34; Fairhaven, \$3,889.49; Fall River, \$8,986.63; Freetown, \$4,101.86; Mansfield, \$3,820.21; New Bedford, \$989.76; North Attleborough, \$131,001.58; Norton, \$23,253.68; Raynham, \$3,954.60; Rehoboth, \$168,614.96; Seekonk, \$37,820.15; Somerset, \$20,847.74; Swansea, \$9,584.29; Taunton, \$111,201.80; Westport, \$3,716.39.

Dukes County. — Chilmark, \$4,041.73; Edgartown, \$844.59; Gay Head, \$663.83; Oak Bluffs, \$263.54; Tisbury, \$413.25; West Tisbury, \$3,642.60.

Essex County. — Amesbury, \$2,947.22; Andover, \$7,587.81; Beverly, \$11,246.93; Danvers, \$52,910.37; Essex, \$2,232.37; Gloucester, \$28,342.81; Groveland, \$1,763.93; Hamilton, \$3,002.97; Haverhill, \$3,276.09; Ipswich, \$61,143.33; Lawrence, \$1,390.97; Lynn, \$75,097.92; Lynnfield, \$4,063.52; Manchester, \$7.03; Merrimac, \$966.29; Methuen, \$5,128.84; Middleton, \$3,162.95; Newbury, \$237,510.81; Newburyport, \$22,796.84; North Andover, \$35,377.23; Peabody, \$7,166.40; Rockport, \$5,698.81; Rowley, \$162,921.61; Salem, \$5,280.89; Salisbury, \$9,860.37; Saugus, \$21,042.36; Swampscott, \$2,935.98; Topsfield, \$200,689.97; Wenham, \$2,541.37; West Newbury, \$6,897.16.

Franklin County. — Ashfield, \$2,033.78; Bernardston, \$4,640.14; Buckland, \$7,809.26; Charlemont, \$49,390.51; Colrain, \$9,213.80; Conway, \$1,986.08; Deerfield, \$10,127.44; Erving, \$254,612.91; Gill, \$230.04; Greenfield, \$5,501.14; Mon-

tague, \$7,798.36; Northfield, \$8,401.23; Orange, \$154,931.79; Shelburne, \$15,134.99; Sunderland, \$9,369.73; Whately, \$2,910.65.

Hampden County. — Agawam, \$7,227.93; Blandford, \$4,457.40; Brimfield, \$5,692.59; Chester, \$219,427.44; Chicopee, \$3,893.66; East Longmeadow, \$2,115.22; Holyoke, \$3,434.78; Monson, \$2,090.54; Palmer, \$11,922.64; Russell, \$9,449.64; Southwick, \$5,235.21; Tolland, \$195.39; Wales, \$1,642.87; West Springfield, \$158,395.48; Westfield, \$4,506.66; Wilbraham, \$69,239.45.

Hampshire County. — Amherst, \$6,631.85; Belchertown, \$3,346.67; Cummington, \$13,670.54; Easthampton, \$3,656.28; Goshen, \$4,857.92; Granby, \$5,708.50; Hadley, \$84,055.69; Hatfield, \$3,626.49; Huntington, \$12,916.74; Northampton, \$5,180.56; South Hadley, \$7,486.17; Southampton, \$3,608.14; Ware, \$10,326.95; Williamsburg, \$4,410.87.

Middlesex County. — Acton, \$5,262.23; Arlington, \$3,771.74; Ashby, \$6,245.96; Ashland, \$3,813.44; Ayer, \$1,324.52; Bedford, \$1,665.46; Billerica, \$106,133.10; Boxborough, \$3,130.41; Burlington, \$3,719.57; Chelmsford, \$2,310.92; Concord, \$5,849.24; Dracut, \$4,665.21; Framingham, \$2,692.38; Groton, \$4,544.27; Holliston, \$2,766.73; Hudson, \$1,168.21; Lexington, \$5,658.47; Lincoln, \$1,274.78; Littleton, \$22,197.38; Lowell, \$2,274.62; Malden, \$35.78; Marlborough, \$7,121.10; Medford, \$1,215.64; Melrose, \$942.46; Natick, \$243,409.36; Newton, \$34,764.11; North Reading, \$1,884.31; Pepperell, \$1,877.67; Reading, \$122,487.24; Shirley, \$4,435.16; Somerville, \$683.47; Stoneham, \$101,431.23; Sudbury, \$3,591.43; Tewksbury, \$3,831.74; Townsend, \$13,345.10; Tyngsborough, \$2,910.23; Waltham, \$735.43; Watertown, \$925.03; Wayland, \$4,206.48; Westford, \$4,375.71; Weston, \$10,016.91; Wilmington, \$2,047.43; Winchester, \$3,551.44; Woburn, \$6,856.63.

Nantucket County. — Nantucket, \$677.78.

Norfolk County. — Avon, \$82,740.85; Bellingham, \$5,519.11; Braintree, \$20,745.91; Canton, \$27,482.74; Cohasset, \$667.20; Dedham, \$137,464.80; Dover, \$1,156.52; Foxborough, \$10,305.96; Franklin, \$5,758.54; Holbrook, \$4,904.29; Milton, \$11,903.00; Needham, \$572.40; Norfolk, \$589.95; Norwood, \$2,595.11; Plainville, \$2,141.11; Quincy, \$98,133.84; Randolph, \$152,676.74; Sharon, \$325.27; Stoughton, \$5,953.13; Walpole, \$1,905.04; Wellesley, \$86,273.54; Westwood, \$1,277.68; Weymouth, \$116,132.61; Wrentham, \$11,811.72.

Plymouth County. — Abington, \$1,890.14; Bridgewater, \$9,851.11; Brockton, \$3,633.66; Duxbury, \$3,659.26; East Bridgewater, \$24,281.03; Hanover, \$122,456.81; Hingham, \$17,485.49; Kingston, \$1,033.88; Lakeville, \$9,999.78; Marion, \$215,089.03; Marshfield, \$3,087.30; Mattapoisett, \$2,642.03; Middleborough, \$37,645.78; Norwell, \$1,700.52; Pembroke, \$1,229.32; Plymouth, \$31,940.70; Rochester, \$4,131.91; Rockland, \$375.51; Scituate, \$4,518.08; Wareham, \$71,534.00; West Bridgewater, \$1,150.73; Whitman, \$1,035.97.

Suffolk County. — Boston, \$2,995.76; Chelsea, \$700.06; Revere, \$25,787.61.

Worcester County. — Ashburnham, \$6,729.46; Athol, \$21,825.34; Auburn, \$5,772.43; Barre, \$68,193.98; Blackstone, \$5,177.58; Brookfield, \$1,180.96; Charlton, \$8,870.19; Douglas, \$1,865.24; Dudley, \$2,565.22; East Brookfield, \$2,039.39; Fitchburg, \$2,428.59; Gardner, \$91,969.87; Grafton, \$5,061.65; Hardwick, \$379.33; Harvard, \$2,190.20; Holden, \$4,649.93; Hopedale, \$5,179.09; Lancaster, \$1,416.84; Leicester, \$4,788.52; Leominster, \$5,796.23; Lunenburg, \$4,646.92; Mendon, \$4,380.29; Milford, \$22,146.72; Millbury, \$4,960.21; Millville, \$4,130.58; New Braintree, \$792.13; North Brookfield, \$760.94; Northborough, \$7,415.73; Northbridge, \$4,210.92; Oakham, \$1,535.72; Oxford, \$7,494.53; Paxton, \$4,014.74; Petersham, \$6,195.05; Phillipston, \$22,041.19; Princeton, \$1,187.21; Rutland, \$9,069.69; Shrewsbury, \$43,955.31; Southborough, \$2,638.58; Southbridge, \$725.01; Spencer, \$3,199.42; Sterling, \$11,257.92; Sturbridge, \$9,106.63; Sutton, \$3,441.48; Templeton, \$66,418.00; Upton, \$45,871.07; Uxbridge, \$4,081.01; Warren, \$4,650.60; Webster, \$1,483.71; West Boylston, \$3,008.48; West Brookfield, \$1,991.08; Westborough, \$2,411.77; Westminster, \$8,708.74; Winchendon, \$3,451.26; Worcester, \$5,552.28.

Miscellaneous expenditures are as follows: —

New trucks	\$19,925 00
Truck repairs	29,719 66

Truck operation	\$10,193 06	
Truck plow repairs	40,462 20	
Tractor repairs	28,701 36	
Tractor operation	10,456 16	
Tractor plow repairs	35,998 54	
Snow fence	5,395 78	
Towns assessed under Chapter 273, Acts of 1927	241,846 38	\$422,698 14
Warning signs	\$19,374 62	
Direction signs	61,847 70	
Control signals	23,717 41	
Traffic survey	30,262 04	
Traffic accidents	6,948 01	
Traffic permits	5,819 24	\$147,969 02
Somerset Bridge	\$15,243 90	
Newburyport Bridge	4,775 76	
Fairhaven-New Bedford Bridge	10,065 56	\$30,085 22
Detour bulletins		3,930.85
Tercentenary signs		14,364 04
Total of miscellaneous expenditures		\$619,047 37

REMOVAL OF SNOW AND ICE FROM STATE HIGHWAYS

(Section 19, chapter 81, General Laws, as amended by chapter 273, Acts of 1927.)

The authority of the Department relative to the removal of snow and ice from State highways has been provided by section 19, chapter 81, General Laws, as amended by chapter 273, Acts of 1927.

The cooperation of the Department with officers of cities, towns and counties in keeping open and reasonably passable for vehicles during the winter months such highways as may be selected by the Department is provided for in section 11, chapter 84, General Laws, as amended by section 2, chapter 482, Acts of 1923.

In accordance with the provisions of these laws, the Department selected 1,483 miles of highways on the principal routes of travel, 1,383 miles of which are State highways and 100 miles town highways.

The work of snow removal on these routes is performed in a large part by the trucks and tractors owned and operated by the Department, but certain towns and cities, by agreement with the Department, perform part of the work of snow removal on the portions of the routes within their limits. All of this work is done under the direction and supervision of the Department.

The expenditures by the Department for snow removal during the year under the provisions of both the above-mentioned laws amounted to a total of \$422,698.14. which includes the cost of the maintenance and repair of the equipment, actual cost of plowing and purchase of materials, such as calcium chloride and sand for use on icy conditions of the road surfaces.

UNIFORM TRAFFIC SIGNS, LIGHTS, MARKINGS, SIGNAL SYSTEMS AND REGULATIONS

Authority and jurisdiction relating to the erection of traffic signs, lights, markings, signal systems and regulations on highways within the Commonwealth was placed in the Department of Public Works by chapter 357 of the Acts of 1928. The Department is thereby enabled to insure that all traffic control signals to be erected by the municipalities shall conform to standards adopted by the Department and cooperates with the cities and towns for the purpose of properly locating and operating such signals. All through ways desired by the municipalities must first be approved by the Department before such may become effective.

In order to secure uniformity in the matter of traffic control, two bulletins

have been issued during previous years as follows: Bulletin No. 1. "Recommendations and Requirements relating to Through Ways"; and Bulletin No. 2. "A standard Code for Traffic Signal Installation and Operation". These present the standards which are required to be met by the cities and towns for the installation and maintenance of traffic signs, signals and devices for the control of traffic.

TRAFFIC CONTROL SIGNALS AND REGULATIONS APPROVED

During the year the Department has issued approval of the following traffic control features:

	In 1930	Previously	Total to Date
Traffic Signals, at intersections	72	479	551
Traffic Beacons	33	92	125
"Through Ways"	43	44	87
Traffic Signs and Markings	69	16	85
Traffic Rules and Regulations	59	59	118

The Department installed traffic control signals at 11 intersections during the year; one was installed the previous year.

DIRECTION SIGNS, ROUTE MARKERS, WARNING SIGNS AND TRAFFIC CONTROL SIGNALS ERECTED BY DEPARTMENT

The Department has given a great deal of study to the determination of the important routes of travel for the purpose of marking and furnishing direction signs as aids for traveling. Ninety-five automobile routes have been selected, including practically every city, town and village in the Commonwealth, having a total mileage of 3,200 miles. Included in this designation are the so-called United States routes, the numbering of which conforms to the numbers approved by the United States Bureau of Public Roads. The other routes selected are numbered according to the State's designation.

The placing of route numbers and direction signs at points of advantage on these designated highways is done by the Department both on State highways and on city and town ways, permission for the latter being obtained from the local authorities. Warning signs and traffic control signals which are erected and maintained by the Department are placed only on State highways.

The adoption of the route markers equipped with reflecting buttons has proven the greatest aid for night driving. A total of 8,552 such markers have been made for use on the highways.

Traffic control signals were erected by the Department at eleven intersections on the State highways during the year.

The manufacture of many of these signs and the erection and maintenance of all of these signs and signals are part of the highway maintenance activities.

TRAFFIC COUNT

The importance of definite information regarding the volume and characteristics of the actual traffic on the highways is more generally recognized as a guide in the determination of routes, in the design of highways adequate to serve the demand for transportation and for the safe and efficient use of the highways already constructed.

In 1909 the Massachusetts Highway Commission commenced recording by actual count the number and types of vehicles on the important State highways, and since that time traffic counts have been taken every three years.

The traffic problem is not limited to State highways but is also of great concern for all the important routes of travel, so that the studies of traffic now include all the numbered routes.

The method recently adopted for this count was as follows: — There were selected 28 so-called key stations which were considered to be the most representative of traffic conditions in their respective localities. Traffic at these points, or key stations, was counted for 24 hours on Wednesday, Saturday and

Sunday only, and on the other four days of the week from 7 A. M. to 11 P. M. during the week in August, beginning August 26, in 1929, and August 20, in 1930. Traffic at the remaining stations selected, numbering 358 in 1929 and 366 in 1930, were counted only from 7 A. M. to 11 P. M. for one day only. The daily variation at this larger number of stations was considered to be equivalent to the daily variation of the appropriate key stations.

Since the greater amount of highway traffic is upon the numbered route system, all stations were located upon them, and these stations were at intersections where all movements could be counted, and so selected as to afford a means of tracing traffic along each route without losing track of it.

All vehicles were counted as they entered the intersection and classified as to direction (straight through, or turning left or right). All of the key stations and 172 of the one-day stations were classified also as to type of vehicle, namely, — (1) passenger cars, (2) heavy trucks, (3) light trucks, (4) buses.

A comparison of the average number of vehicles per day, at stations which were identical during several traffic counts, was made for 130 such stations for the years 1921, 1924, 1927 and 1930, as follows: —

Year of Count	Aver. Number of Vehicles Per Day Per Station
1921	1,924
1924	3,716
1927	3,616
1930	5,257

A classification of types of vehicles as determined from the counts at key stations indicates that commercial vehicles are about 9% of the total traffic.

Variations of traffic flow were studied to ascertain the hourly, daily, monthly and yearly variations.

A study of the statistics obtained indicates that the flow of traffic is concentrated at districts, particularly near the large centers, and especially in the metropolitan area. Recreational areas also draw large volumes of traffic. Interstate traffic uses highways leading across the State lines on about thirty-two principal routes, crossing the State line at 43 points of entry. The data obtained indicates that the number of vehicles entering just about equals the number leaving the State.

The Department has made for its use flow maps and other diagrams portraying graphically various factors in the analysis of traffic flow movements on the numbered highways.

Delay and accident studies also have been made in connection with studies for the improvement of important intersections in order to ascertain the relative importance of such intersections for the purpose of planning grade separations.

TRAFFIC ACCIDENT STUDIES

A study has been made of attendant circumstances and physical characteristics at points on the highways where accidents have occurred, in order to measure the effectiveness of control or lack of control of traffic movements at such points. Such information included the type of district, layout of the roadway, means of traffic control, atmospheric conditions, light conditions, condition of roadway, physical obstructions in the roadway and obstructions to view. This information is required in reports submitted to the Registry of Motor Vehicles and is supplied to the traffic engineering section for study.

In connection with the study of such data a large wall map is used to locate by pins the points where accidents occur. The data obtained by the traffic count is also used in connection with the records of accidents on numbered automobile routes. It is believed that these studies will assist in determination of hazardous conditions so that the physical characteristics or traffic control measures, or both, will be altered to produce greater factors of safety at such points on the highways.

MOTOR VEHICLE TRAFFIC AT INTERSECTIONS ON NUMBERED AUTOMOBILE ROUTES

Total number of vehicles passing through designated intersections during a period of 16 hours on a Wednesday and on a Sunday in August of 1929 and 1930. (Includes passenger automobiles, trucks and buses.)

Key stations are designated by the symbol °.

The figures given for key stations and certain others, are the actual counts on days noted (marked *). The figures given for the other stations are calculated values derived from the actual count when taken, as modified by the daily variation factors of the appropriate key station.

Sta. No.	Town	Route	Wednesday August 28 1929	Wednesday August 20 1930	Sunday August 25 1929	Sunday August 24 1930
1	Abington	102-123	5,850	5,688*	9,594	8,057
1A	Abington	58-123	—	4,288	—	6,075
3	Acushnet	105	913	939	1,954	1,945
5	Agawam	5A	5,289	4,116*	8,038	6,151
7	Amesbury	110	6,851	5,968*	9,781	9,398
7A	Amesbury	110	4,748	3,472	7,294	5,467
8	Amherst	109-116	8,189	3,587	14,576	6,695
9	Andover	28-133	8,436	10,908	15,268	19,563
9B	Andover	28	—	6,803*	—	12,198
10	Cambridge	2	—	24,073*	—	23,942
11	Ashburnham	119	929	749	2,508	1,867
12	Ashby	108-119	2,171	1,743	5,853	4,938
13	Ashfield	112-116	—	950*	—	2,157
14	Ashland	135	4,476	2,844	10,445	5,587
15	Athol °	2-32	3,784	4,407*	7,134	8,586*
15A	Athol	2	3,637	5,089	6,873	9,591
16	Attleboro °	1-123	9,816	9,723*	16,133	15,104*
17	Auburn	12	8,681	7,227	18,012	11,804
19	Ayer	2	5,326	3,993	13,417	9,953
19A	Ayer	2-110	4,738	4,362	11,932	10,873
20	Barnstable	6-132	4,824	4,868	10,416	9,914
20A	Barnstable	6-49	5,115	5,625*	10,997	11,455
20B	Barnstable	28-49	3,110	3,770	6,243	7,677
20C	Barnstable	28-130	2,336	2,438*	4,061	4,965
21	Barre	32-122	1,843	1,726	3,071	3,413
21A	Barre	32-67	1,513	1,112	2,540	2,198
22	Becket °	8-20	2,006	1,835*	5,054	3,940*
22A	Becket	8-20	1,880	1,754*	4,405	3,692
23	Bedford	2A-62	3,816	5,126	9,676	14,513
23A	Bedford	2A-4-62	4,320	5,524	10,956	15,640
24A	Belchertown	21	1,883	2,526	3,257	4,771
25	Bellingham	140	1,735	2,323	3,505	4,735
28	Berlin	62	1,607	1,622	2,983	3,009
29	Bernardston	5-10	3,093	3,444	5,319	7,294
30A	Beverly	97-1A	6,334	7,331*	14,021	15,708
30B	Beverly	1A-62	9,700	9,481	21,413	20,317
30C	Beverly	1A-127	17,150	17,470	37,729	37,434
30D	Beverly	127-	8,130	7,470	17,323	16,006
31	Billerica	3	5,235	4,743	8,990	10,317
34	Bolton	117	1,033	1,204*	2,270	2,233
34A	Bolton	110-117	2,388	1,938*	5,012	3,595
35	Boston	43	41,445	47,817	73,326	80,086
36	Bourne	6-28	9,762	9,478*	19,409	19,302
36A	Bourne	3-6	4,790	6,433*	10,292	13,101
36B	Bourne	6	4,155	5,377	9,033	10,952
36C	Bourne	28	5,852	6,130	10,212	12,485
39	Boylston	110	—	2,749*	—	5,302
40	Braintree	37-58	6,016	7,858*	11,211	15,602
40A	Braintree	37-58	5,043	7,605	9,437	15,118
41	Brewster	6-24	—	3,698*	—	4,398
42	Bridgewater	28	5,045	4,477	9,401	8,901
43	Brimfield	32-131	2,143	2,402*	3,601	4,535
44A	Brockton	28-37	8,163	8,057	14,916	16,017
44B	Brockton	28-28	7,756	7,014*	14,658	12,723
47	Buckland	2-112	—	3,122	—	7,107
48	Burlington	3-62	5,021	5,494	9,684	11,948
48A	Burlington	3-62	5,078	4,487	9,794	9,760
50	Canton	138-58	9,877	12,041*	18,470	24,804
50A	Canton	138	9,935	10,487	18,571	21,606
51	Carlisle	2A-126	1,233	905	3,119	2,562
52A	Carver	58-101	1,237	1,618	2,963	3,433
52B	Carver	58-101	1,497	1,636	3,577	3,473
54	Charlton	124-124A	—	3,217*	—	6,087
55	Chatham	28	6,025	6,375	7,643	6,438
55A	Chatham	25-28	—	3,688	—	3,725*
56	Chelmsford °	3-4	7,772	8,096*	15,772	17,609*
56A	Chelmsford	4-110	7,543	5,491	18,971	15,544
56B	Chelmsford	3	7,865	8,366*	15,887	18,087
56C	Chelmsford	4-126	4,159	4,455	10,560	12,612
63	Clarksburg	8	1,519	847	2,384	2,083
67	Concord	2-111	4,491	4,691	12,839	12,679

MOTOR VEHICLE TRAFFIC AT INTERSECTIONS (Continued)

Sta. No.	Town	Route	Wednesday August 28 1929	Wednesday August 20 1930	Sunday August 25 1929	Sunday August 24 1930
67A	Concord	117-126	1,827	1,714	4,121	4,633
67C	Concord	2-62	6,796	7,325	19,436	19,797
67D	Concord	62	2,557	2,867	7,312	7,751
69	Cumington	9-112	2,064	844	3,117	1,960
70	Dalton	8-109-A	5,380	2,965	8,183	6,883
72	Danvers °	1-114	9,494	11,379*	21,073	25,084*
72A	Danvers	162	9,677	11,017	21,691	24,397
73	Dartmouth	6	8,432	9,132*	16,003	13,393
74	Dedham	1	12,716	11,107	23,525	18,471
74A	Dedham °	1	10,548	10,417*	19,546	17,068*
74B	Dedham	128-137	9,985	7,254	18,501	11,930
75	Deerfield °	5-10-116	5,803	5,500*	9,836	10,272*
76	Dennis	6-134	2,727	3,091	3,981	3,677
76A	Dennis	28-134	4,304	5,185*	5,412	6,167
77	Dighton	138	3,814	5,069	6,865	6,743
81	Dudley	131	7,494	4,926	19,954	8,100
83	Duxbury	3A-19	—	3,521	—	6,013
85	E. Bridgewater	102-106	2,862	3,275	5,384	4,639
86	E. Brookfield	20-67	6,597	4,925	11,362	9,415
88	Easthampton	10	6,146	6,182	7,082	9,231
88A	Easthampton	5	8,966	8,145	10,425	12,169
90	Easton °	138-123	8,263	8,182*	15,502	16,149*
90A	Easton	106-123	1,813	2,174	3,378	4,322
90B	Easton	106-123	6,665	7,108	12,474	14,131
90C	Easton	106-138	1,305	1,226	2,442	2,438
90D	Easton	138	7,805	8,070	14,615	15,854
90E	Easton	138	7,574	8,277	14,037	17,052
92	Egremont	17	1,914	1,925	2,991	2,945
93	Enfield	109-21	1,879	1,903	3,520	3,641
95	Essex	121	3,716	3,452	7,803	7,057
95A	Essex	—	3,253	5,336	6,809	9,608
97	Fairhaven	6	9,292	8,053	20,045	17,148
98	Fall River	138	10,038	13,865	18,918	20,335
99	Falmouth	28	5,058	5,375	8,840	10,945
100	Fitchburg	2-12	4,382	7,321	10,957	18,254
100A	Fitchburg	2-120	2,821	5,079	7,053	12,660
102	Foxboro	140	3,588	3,330	8,216	6,495
103	Framingham	115	4,933	6,584	11,576	12,938
103A	Framingham	126-135	—	15,859	—	31,157
104A	Franklin	140	3,719	3,856	7,512	7,860
105	Freetown	104-140	3,256	3,081	7,040	6,558
106A	Gardner	2-68	—	6,357	—	12,795
108	Georgetown	97-133	2,973	3,104	4,722	6,137
108A	Georgetown	97-123	1,356	1,490	2,142	2,946
110	Gloucester	121-127	12,965	12,859	27,109	29,197
111	Goshen	109-112	3,381	1,577	5,058	3,675
113	Grafton	122-140	2,954	4,287*	6,144	8,934
113A	Grafton	122-115	3,653	4,606*	7,642	9,488
113B	Grafton	122-122A	4,118	4,999	8,619	8,221*
116	Gt. Barrington	7-17	6,126	6,010	9,480	9,193
116A	Gt. Barrington	7-118	6,370	5,999*	9,859	9,173
116B	Gt. Barrington	7	5,333	5,501*	8,333	8,411
116D	Great Barrington	17-71-118	—	2,518	—	3,854
117	Greenfield	2	4,166	5,029	7,162	10,651
117A	Greenfield	5	5,059	4,801	8,686	10,166
117B	Greenfield	5	5,818	5,388	10,006	11,411
119	Groton	2A-119	1,723	1,364	4,648	3,864
119A	Groton	119-2A	2,750	2,031	7,420	5,756
119B	Groton	119-2A	2,531	2,010	5,084	5,695
120	Groveland	125-97	4,380	4,067*	6,729	7,924
121	Hadley	109	3,606	3,642	5,446	6,670
122	Halifax	58-106	2,000	2,356*	4,780	5,000
125	Hancock	2	388	248	594	565
126	Hanover	3-123	4,497	4,918	8,647	9,237
126A	Hanover	3	5,343	6,375*	9,510	11,972
127A	Hanson	19-58	—	2,757	—	4,617
127B	Hanson	15-58	—	2,339*	—	3,917
129	Harvard	110-111	2,103	2,213*	5,268	5,502
130	Harwich	24-28	—	5,278	—	5,330
132	Haverhill	110	10,757	8,822*	16,549	17,644
135	Hingham	3A	14,289	12,942	25,556	22,173
135A	Hingham	3A	13,065	13,385	21,820	22,417
135B	Hingham	3	—	5,180	—	8,675
136	Hinsdale	8-109	2,240	1,938	3,399	4,516
137	Holbrook	37	—	6,243	—	12,411
138	Holden	122A-68	2,048	1,797	3,413	3,510
138A	Holden	122A	4,050	3,096*	6,750	6,046
138B	Holden	122A-120	3,113	3,788	5,198	7,401
140	Holliston	126	3,566	3,707	6,954	6,094
141	Holyoke °	5	10,030	10,357*	15,194	15,479*
141A	Holyoke	5	8,348	14,164	9,560	23,880
143	Hopkinton	85	2,254	2,116	4,173	3,926
145	Hudson	62-85	3,219	3,767	5,833	6,988
147	Huntington	66-112	492	531	1,209	1,129

MOTOR VEHICLE TRAFFIC AT INTERSECTIONS (Continued)

Sta. No.	Town	Route	Wednesday August 28 1929	Wednesday August 20 1930	Sunday August 25 1929	Sunday August 24 1930
147A	Huntington	20-112	2,816	4,098	7,039	8,632
148	Ipswich	1A-121	5,110	4,826*	10,834	10,607*
149	Kingston	3-3A	4,348	4,747*	10,455	10,014
149B	Kingston	15-106	—	2,470	—	5,242
150	Lakeville	104-105	1,168	1,173*	2,499	2,429
152	Lanesborough	7	1,075	1,771*	1,658	4,020
154	Lee	20-141	3,670	3,849	5,695	5,535
155	Leicester	20	7,694	6,896	13,250	13,184
156	Lenox	20-7	6,097	5,962*	9,491	8,850*
157	Leominster	12	4,915	6,133	9,437	11,913
159	Lexington	2-128	7,260	8,862	20,733	23,945
159B	Lexington	2A-2	11,553	11,122	48,506	31,486
159C	Lexington	2A-2	12,976	12,219*	36,911	34,591
159D	Lexington	2	5,248	5,472	14,999	14,785
159E	Lexington	128-	3,866	4,494	8,699	12,724
161	Lincoln	117-	4,184	3,850	9,372	7,142
162	Littleton	119-110	4,044	3,817*	10,831	9,481*
162A	Littleton	—	2,747	3,353*	5,466	6,034*
164	Lowell	3B-133	7,545	7,704	12,902	13,550
164A	Lowell	3B	8,361	8,661	14,333	15,231
166	Lunenburg	2	2,611	3,041	6,652	7,581
166A	Lunenburg	2	3,783	4,470	9,494	11,142
167	Lynn	1A-129	10,361	11,993*	22,794	25,698
167B	Lynn	1A-129	15,930	8,627*	35,167	18,486
168	Lynnfield	1-128	11,328	15,003*	25,076	32,599
169	Malden	1-60	13,361	18,453	34,692	40,084
171	Mansfield	106-	1,586	1,560	3,632	3,042
171A	Mansfield	140-	3,290	3,700	7,529	7,216
172	Marblehead	129-	9,810	7,432	21,581	15,925
173	Marion	6-105	5,322	5,797	11,580	11,527
174	Marlborough	20-	7,425	7,836	13,513	14,292
174A	Marlborough	20-	5,951	8,848	10,842	16,138
175	Marshfield	3A-	4,755	6,415	12,212	10,948
176	Mashpee	28-	2,063	2,173	3,586	4,425
178	Maynard	117-62	2,248	2,750	5,018	5,100
179	Medfield	137-	3,436	3,762	6,700	6,168
180	Medford	28-	13,051	9,990	25,123	18,438
180A	Medford	1-28	—	50,340	—	92,969
181	Medway	137-	2,054	2,459	4,005	4,044
183	Mendon	126-	2,724	2,289	5,341	4,665
185	Methuen	28-	7,608	12,278	13,821	23,048
185B	Methuen	110-	7,067	7,294	12,732	14,589
185C	Methuen	110-	5,887	5,970	10,693	11,945
186	Middleborough	28-101	8,339	7,291	17,209	7,891
186A	Middleborough	28-	4,839	4,556	9,955	9,326
188	Middleton	62-114	3,694	5,570	8,338	10,084
189	Milford	126-137	3,631	4,364	6,120	7,177
189A	Milford	140	—	2,173	—	3,574
190	Millbury	122A-	5,869	3,702*	12,294	6,088
191	Millis	137-	2,545	2,563	4,963	4,215
192	Millville	122-	3,758	4,142*	7,867	8,789*
193	Milton	28-128	6,628	4,451	12,394	8,846
193A	Milton	28-	4,425	2,853	8,201	5,878
193B	Milton	128-	9,620	10,842*	17,989	22,334
193C	Milton	28-138	—	22,007	—	45,342
195	Monson	32A	1,667	895	2,794	1,690
202	Natick	135-	6,657	8,765	12,193	14,407
202A	Natick	115-	3,895	4,246	7,283	6,982
203	Needham	128-135	4,483	4,687	8,324	7,708
203A	Needham	128	—	5,075	—	9,243
208	Newburyport	1-1A	11,574	11,394*	18,338	17,957*
208B	Newburyport	125	—	4,265	—	7,340
211	Newton	20A-128	8,394	12,276	15,729	23,153
211A	Newton	115A	8,870	9,153	16,582	17,262
211B	Newton	115A-128	6,478	9,645	12,139	18,191
211C	Newton	115-128	6,005	10,140	11,122	19,124
211D	Newton	20A	—	9,755	—	18,398
213A	North Adams	8-	4,930	2,703	7,739	6,694
214	Northampton	5-10	10,374	7,697*	15,887	14,096
215	No. Andover	114-133	4,565	3,518	8,292	7,036
215A	No. Andover	125-133	6,773	4,885	7,353	9,171
215B	No. Andover	114-125	6,802	6,268*	9,272	12,560*
215C	No. Andover	133-125	4,177	4,958	7,560	9,310
215D	No. Andover	125-	4,926	5,020	8,876	12,236
216A	No. Attleboro	1-	9,523	8,808*	16,284	15,085
218	Northbridge	122-	4,020	4,227	8,415	7,637
220	Northfield	10-63	1,991	2,161	3,388	4,032
221	No. Reading	28-62	7,573	8,061	15,058	15,878
221A	No. Reading	28-62	7,839	7,994*	14,470	14,828*
223	Norwell	3	5,888	6,542*	11,187	12,286
227	Orange	2-78	2,262	3,068	4,234	5,741
228	Orleans	6-28	3,183	4,002*	4,303	4,452*
229	Otis	8-	637	903	1,483	1,918
230	Oxford	12-124	4,209	6,528*	8,788	10,813*

MOTOR VEHICLE TRAFFIC AT INTERSECTIONS (Continued)

Sta. No.	Town	Route	Wednesday August 28 1929	Wednesday August 20 1930	Sunday August 25 1929	Sunday August 24 1930
230A	Oxford	12	—	5,377	—	7,750
231	Palmer	20-32	5,961	4,673	10,046	8,827
231A	Palmer	32-32A	2,245	1,828	3,806	3,452
231B	Palmer	32-	2,577	1,806	4,319	3,410
233A	Peabody	128-	8,836	8,476	19,439	18,417
233B	Peabody	114-	6,817	6,235	15,064	13,548
235	Pembroke	3-19	—	3,496	—	8,382
235A	Pembroke	3-19	—	4,022	—	9,643
236	Pepperell	119-113	1,215	1,052	3,276	2,981
238	Petersham	32-	879	1,334	1,476	2,638
240	Pittsfield	109-8	8,896	7,797*	13,646	17,862*
240A	Pittsfield	20-118	5,173	2,929	7,850	4,347
243A	Plymouth	3	2,663	2,761	6,379	5,755
244	Plympton	58-106	1,569	1,830	3,758	3,883
246	Princeton	64-120	841	675	1,618	1,310
246A	Princeton	64-120	642	583	1,233	1,125
247	Provincetown	6-	3,601	3,607	4,742	4,012
248	Quincy	3-	14,527	13,288	25,703	22,254
248A	Quincy	28-58	4,963	3,597*	9,280	7,151
248B	Quinnebaug	131-	2,598	1,662	6,621	2,733
249	Randolph	28-	6,870	5,411	12,847	10,756
250	Raynham	102	1,269	1,626*	2,374	3,232
250A	Raynham	138-	5,848	6,008	10,945	11,803
251	Reading	28-	8,512	8,826	16,387	16,296
253	Revere	1A-	14,095	14,097	31,008	30,209
253A	Revere	1A-	20,495	20,161*	45,243	43,201
253B	Revere	1A-	14,951	14,546	32,891	31,171
253C	Revere	1A-107	36,033	40,390	79,620	86,549
253D	Revere	60-107	13,816	17,100	30,583	36,642
253E	Revere	107-	10,332	18,810	37,350	40,307
256A	Rockland	123-58	4,419	4,160	7,929	6,965
256B	Rockland	123	—	3,563*	—	5,940
257	Rockport	127-	4,512	4,321	9,529	9,811
259	Rowley	1-133	6,918	7,634	12,451	13,021
259B	Rowley	1A-133	2,837	2,894	5,119	4,938
260	Russell	20-	3,314	3,180*	8,091	6,697
262	Rutland	122-122A	2,446	2,191*	4,076	4,334
263	Salem	1A-	9,472	8,781	11,487	18,817
263B	Salem	129	—	10,228	—	22,389
263C	Salem	107-128	—	6,640	—	14,228
264	Salisbury	1-1A	11,618	11,881	16,580	20,441
264A	Salisbury	1A-	3,379	4,404	4,817	5,207
266	Sandwich	6-130	6,291	5,182	13,586	10,554
267	Saugus	1-129	8,648	10,038	19,195	21,812
267B	Saugus	1	—	10,213	—	22,181
269	Scituate	3A-	6,437	6,010*	16,479	10,264
269A	Scituate	3A-123	4,078	4,433	10,412	7,572
269E	Seabrook	1-110	7,563	6,965	10,701	8,238
270	Seekonk	—	1,877	2,255	3,648	3,621
270A	Seekonk	6-	9,839	15,418	19,087	24,757
270B	Seekonk	101	—	9,377	—	13,885
271	Sharon	15	—	4,181	—	7,615
272	Sheffield	7-17	3,920	2,849	6,203	4,359
274	Sherborn	15-16	—	1,725	—	3,390
276	Shrewsbury	20-	15,220	15,647	27,687	28,544
276A	Shrewsbury	20-	11,540	10,422	20,993	19,009
278	Somerset	103-138	12,894	17,982*	24,309	26,554*
278A	Somerset	103-	7,613	6,946	10,055	9,788
278B	Somerset	138-	4,747	4,992*	8,554	6,639
279	Somerville	1-128-3B	—	18,155	—	51,397
281	Southborough	85-115	1,815	1,869	3,440	3,468
282	Southbridge	124-	4,193	2,824	9,685	5,345
282A	Southbridge	131-	3,718	2,631	8,588	4,979
283	So. Hadley	116-139	4,603	5,544*	7,036	6,475
284	Southwick	10-57	5,352	3,168	6,610	4,735
286	Springfield	5-	8,872	9,156	13,485	13,682
286A	Springfield	20-21	8,813	7,513	14,872	11,226
286B	Springfield	20-20A	8,446	9,017	14,153	13,471
287	Sterling	12-62	2,938	2,913	5,641	5,658
288	Stockbridge	7-141	4,872	5,250*	7,541	8,033
288A	Stockbridge	7-141	1,844	2,170	2,881	3,591
290	Stoughton	138-	8,040	9,160	15,035	18,872
291	Stow	62-117	2,324	2,372	5,191	4,399
292A	Sturbridge	124-131	—	3,164	—	5,988
292B	Sturbridge	124-131	—	1,943*	—	3,676
293	Sudbury	20-126	8,064	8,206*	15,109	15,216*
293A	Sudbury	20-126	8,006	7,906	15,050	14,666
293B	Sudbury	126-	2,297	2,646	5,317	4,908
297	Swansea	103-	3,107	3,250	6,040	5,218
297B	Swansea	6-136	—	10,992	—	17,648
298	Taunton	101-	3,377	2,951*	7,145	6,404
298A	Taunton	101-	3,295	3,934	5,665	8,147
298B	Taunton	140-101	5,158	4,633*	11,347	9,721*
298C	Taunton	140-	2,911	3,292	6,662	7,098

MOTOR VEHICLE TRAFFIC AT INTERSECTIONS (Continued)

Sta. No.	Town	Route	Wednesday August 28 1929	Wednesday August 20 1930	Sunday August 25 1929	Sunday August 24 1930
299	Templeton	2-	2,711	3,419	5,421	6,883
299A	Templeton	2-32	2,100	2,937	4,199	5,913
299B	Templeton	68-32	3,048	3,890	6,128	7,828
300	Tewksbury	3B-	2,990	3,161	5,143	5,556
303	Topsfield	1-97	6,794	7,498	15,198	16,608
303B	Topsfield	1-	7,087	7,051	15,804	15,618
306	Tyngsborough	3-3B	6,357	6,757*	12,841	14,609
306A	Tyngsborough	3-113	6,064	6,230*	12,249	13,577
312	Walpole	1-	10,300	9,579	19,032	15,753
312A	Walpole	1-15	-	10,314	-	21,025
313	Waltham	20-117	15,446	15,991*	28,392	25,202
313A	Waltham	20-60	18,244	19,716*	33,535	31,072
314	Ware	109-32	2,512	5,418	4,652	10,369
315	Wareham	6-	5,827	6,067	11,988	12,420
315A	Wareham	6-28	8,457	8,974	17,421	18,371
315B	Wareham	28-58	5,393	5,394*	11,109	11,042
315C	Wareham	6	-	8,599*	-	17,077
320	Wayland	20-	9,561	9,362	17,792	17,182
322	Wellesley	115-	4,723	4,240	8,832	6,971
322A	Wellesley	115-115A	11,431	12,864	21,376	21,144
322B	Wellesley	135-	10,791	7,274	20,042	11,955
322C	Wellesley	16-135	-	11,094	-	18,234
322D	Wellesley	16-135	-	10,673	-	17,542
326	Westborough	135-	1,532	1,606	2,845	2,980
326A	Westborough	115-	1,083	1,638	2,025	3,040
327	West Boylston	12-110	5,521	3,795*	11,147	7,369*
327A	West Boylston	12-64	6,524	5,276	13,177	10,250
328	W. Bridgewater	28-106	8,303	6,205	15,549	12,337
329	W. Brookfield	20-109	5,857	4,204*	10,100	8,005*
330A	Westfield	20-	7,097	6,515	10,850	9,730
330B	Westfield	20	-	6,515	-	9,730
331	Westford	110-2A	2,901	3,078	7,977	6,713
331A	Westford	110-	2,626	2,737	7,221	5,969
333A	Westminster	2-	3,428	4,711	6,856	9,477
334	W. Newbury	125-	2,091	2,271	3,212	3,909
335	Weston	120-120A	10,560	10,980*	19,225	18,084*
335A	Weston	20A	4,996	4,737*	9,096	8,934
336	Westport	6-	8,793	10,362	16,572	15,199
337	W. Springfield	5-20-5	16,335	14,950	24,907	22,343
337A	W. Springfield	5-20-20A	22,242	21,332	33,912	31,875
337B	W. Springfield	20-57	8,953	10,212	15,785	15,250
338	W. Stockbridge	118-141	1,942	1,132	1,972	1,733
340	Westwood	1-	11,770	13,904	21,774	22,864
341	Weymouth	3-102	10,416	10,521*	18,704	17,689*
341A	Weymouth	3A-	19,266	17,721*	34,485	29,676
341B	Weymouth	158-102	7,097	6,946	11,411	9,840
341C	Weymouth	102	-	6,862	-	9,721
343	Whitman	102-	6,469	5,649	10,585	8,002
344	Wilbraham	20-	7,655	5,134	12,832	9,699
345	Williamsburg	109-109A	2,151	1,319	3,295	3,079
346	Williamstown	7-	2,617	2,681	4,006	6,092
346A	Williamstown	2-7	1,326	1,647	2,034	3,835
346B	Williamstown	2-7	5,725	7,529	8,785	17,543
346D	Williamstown	96	-	787	-	1,792
347	Wilmington	3B-129	4,737	4,859	9,612	10,569
347A	Wilmington	3B-62	6,041	5,669	12,203	12,330
348	Winchendon	12-	2,316	1,672	4,364	3,266
348A	Winchendon	32-	839	1,019	1,584	1,991
348B	Winchendon	32-12	4,267	4,759	8,064	9,568
350	Windsor	109-	2,726	1,550*	4,130	3,611
352	Woburn	3-128	7,409	7,009	14,439	15,246
352A	Woburn	3B-128	13,068	12,318	26,521	34,876
353	Worcester	122-	3,621	3,493*	6,033	6,909
353A	Worcester	12-	8,968	7,789	18,110	15,120
354	Worthington	109A-112	646	830	980	1,906
355	Wrentham	1-140	9,144	9,688*	17,818	17,752*
355A	Wrentham	1-142	6,949	7,395	13,528	12,641
356	Yarmouth	28-132	6,951	9,802	8,968	19,964
Total			2,054,850	2,110,858	3,979,055	4,032,135

ROADSIDE MAINTENANCE AND DEVELOPMENT

Roadside maintenance as related to the care and planting of trees and other growth on the areas within the highway layouts and adjacent to the traveled surface of State highways has been one of the activities of this Department for over thirty-five years. This work has been developed more rapidly during recent years because it has become recognized that systematic and intelligent control and development of all features of the roadside conditions are of value not only from the point of view of attractiveness in appearance but as a safety factor as well.

The Department has organized and trained a group of men under competent supervision to have charge of this work, not only for the removal and trimming of trees, brush and undesirable growth, but also for the selection and planting of new growth suitable for the locations. The removal of trees and brush that may obstruct vision at curves, intersections or other points on the highways is done to insure that operating conditions shall be as safe as possible and unnecessary growth is cleared out in order to afford attractive vistas at many scenic locations. For the protection of the roadside trees the Department has maintained a corps of inspectors to supervise trimming that may be necessary for the construction of light and power transmission lines. In connection with this work there are three nurseries maintained in which the types of trees and shrubs suitable for use on the highways of Massachusetts are grown and made available for use by the Department.

During the year 1,573 trees were planted, making a total for the past twenty-six years of 59,677 trees planted; and in this year 6,261 shrubs and 207 evergreens have been planted throughout the State; in addition, 28,845 small pines have been planted on bare slopes and ragged cuts.

TERCENTENARY SIGNS

Under the provisions of Chapter 10 of the Resolves of 1930, the Department was authorized to prepare and erect signs and suitable markers, including such as may be selected by the Massachusetts Bay Colony Tercentenary Commission, with suitable inscriptions, indicating the ancient ways of the Puritan times and the structures or places relating to or associated with the early settlements within the Commonwealth. These signs and markers, after being erected, are required to be maintained by the Department from appropriations made for the maintenance of highways.

The locations of these signs and markers were selected jointly by the local authorities of the cities and towns and the Tercentenary Commission with due consideration as to visibility, proper height and position. A total of 273 tercentenary signs were erected.

REGULATION OF TRAFFIC ON HIGHWAYS DURING THE WINTER OF 1929-1930

As provided in section 30, chapter 85, General Laws, as amended by Chapter 526, Acts of 1922, by chapters 180 and 342, Acts of 1925, and by section 1, chapter 353, Acts of 1930, the Department on January 28, 1930, adopted regulations, and gave public notice thereof, providing that no person shall drive, operate or move any vehicle or object which with its load weighs more than ten thousand pounds over certain State highways without a permit therefor during the season. These regulations were in effect in the following counties during the periods stated: —

Barnstable County, February 17 to March 18, 1930.

Berkshire County, February 17 to April 8, 1930.

Bristol County, February 17 to March 18, 1930.

Franklin County, February 17 to April 8, 1930.

Hampden County, February 17 to April 1, 1930.

Hampshire County, February 17 to April 8, 1930.

Norfolk County, February 17 to March 18, 1930.

Plymouth County, February 24 to March 18, 1930.

Essex County, March 1 to April 1, 1930.

Middlesex County, March 1 to April 1, 1930.

Worcester County, March 1 to April 8, 1930.

FEDERAL AID IN CONSTRUCTING HIGHWAYS

Statements as to the acts of Congress and of the Massachusetts Legislature with respect to cooperation between the United States and the states in the construction and maintenance of highways, including the Federal Highway Act

approved November 9, 1921, may be found in the annual reports of this Department for the years 1920-1927, inclusive.

The following Federal aid allotments have thus far been made to Massachusetts: —

For fiscal year ending June 30, 1917	.	.	.	.	.	.	\$73,850 94
For fiscal year ending June 30, 1918	.	.	.	.	.	.	147,701 90
For fiscal year ending June 30, 1919	.	.	.	.	.	.	958,145 15
For fiscal year ending June 30, 1920	.	.	.	.	.	.	1,400,078 27
For fiscal year ending June 30, 1921	.	.	.	.	.	.	1,472,788 83
For fiscal year ending June 30, 1922	.	.	.	.	.	.	1,096,176 04
For fiscal year ending June 30, 1923	.	.	.	.	.	.	730,784 03
For fiscal year ending June 30, 1924	.	.	.	.	.	.	950,448 62
For fiscal year ending June 30, 1925	.	.	.	.	.	.	1,089,806 22
For fiscal year ending June 30, 1926	.	.	.	.	.	.	1,099,891 00
For fiscal year ending June 30, 1927	.	.	.	.	.	.	1,089,055 00
For fiscal year ending June 30, 1928	.	.	.	.	.	.	1,089,100 00
For fiscal year ending June 30, 1929	.	.	.	.	.	.	1,088,808 00
For fiscal year ending June 30, 1930	.	.	.	.	.	.	1,090,077 00
For fiscal year ending June 30, 1931	.	.	.	.	.	.	1,821,569 00
For fiscal year ending June 30, 1932	.	.	.	.	.	.	1,813,916 00
Total	.	.	.	.	.	.	\$17,012,196 00

The total amount received by Massachusetts from 1916 to November 30, 1930, is \$10,842,971.08.

Projects to the number of 32 have been prepared in addition to those shown in the report of the Department of Public Works for 1929. The total mileage included in the various Federal aid road projects in this state, from the commencement of work of this character to November 30, 1930, inclusive, is 782.396. The mileage in various counties is: —

Barnstable, 82.697 miles	Hampden, 50.502 miles
Berkshire, 105.483 miles	Hampshire, 43.021 miles
Bristol, 78.560 miles	Middlesex, 61.973 miles
Dukes, 3.117 miles	Norfolk, 44.273 miles
Essex, 62.037 miles	Plymouth, 86.296 miles
Franklin, 35.572 miles	Worcester, 128.865 miles

STATEMENT OF FEDERAL AID ROAD PROJECTS * TO NOV. 30, 1930

No.	Town or City	Miles	Amount of Federal Aid involved	Amount received	Remarks
1	Acushnet-Fairhaven	2.182	\$21,820 00	\$21,820 00	Work completed.
2	Hanover	2.708	19,480 36	19,480 36	Work completed.
R2	Hanover	2.615	39,225 00		Work completed.
3	Malden-Melrose-Saugus	1.162	11,620 00	11,620 00	Work completed.
4	Danvers	1.325	15,460 22	15,460 22	Work completed.
5	Windsor-Dalton	3.240	64,800 00	64,800 00	Work completed.
6	Sandwich	1.818	10,678 02	10,678 02	Work completed.
7	Cummington	4.659	86,816 53	86,816 53	Work completed.
8	Athol-Petersham	7.016	90,074 51	90,074 51	Work completed.
9	Saugus	3.122	65,472 27	65,472 27	Work completed.
10	Braintree	2.420	40,554 80	40,554 80	Work completed.
11	Concord-Acton-Littleton	4.849	77,600 87	77,600 87	Work completed.
12	Ipswich	2.173	21,851 50	21,851 50	Work completed.
13	Littleton-Groton	6.450	130,504 25	130,504 25	Work completed.
14	Barnstable	3.331	22,687 65	22,687 65	Work completed.
15	Norwell-Hingham	4.380	59,501 75	59,501 75	Work completed.
17	Lynnfield-Peabody	1.794	35,880 00	35,880 00	Work completed.
18	Lunenburg	2.797	55,940 00	55,940 00	Work completed.
19	Taunton	2.116	42,320 00	42,320 00	Work completed.
20	Tewksbury	2.909	35,211 82	35,211 82	Work completed.
21	Pittsfield-Hancock	3.637	72,483 32	72,483 32	Work completed.
22	Greenfield-Bernardston	6.426	88,270 71	88,270 71	Work completed.
23	Great Barrington	2.123	31,348 89	31,348 89	Work completed.
24	Seekonk	2.756	19,527 75	19,527 75	Work completed.
R24	Seekonk	2.756	41,340 00	41,340 00	Work completed.

* All of these projects are now, or will be later, State highways.

STATEMENT OF FEDERAL AID ROAD PROJECTS TO NOV. 30, 1930 (Continued)

No.	Town or City	Miles	Amount of Federal Aid involved	Amount received	Remarks
25	Billerica	0.578	\$38,389 77	\$38,389 77	Work completed.
26	Greenfield-Shelburne:				
	Section 1	5.134	102,680 00	102,680 00	Work completed.
	Section 2	4.401	88,020 00	88,020 00	Work completed.
27	Hamilton-Wenham	1.766	20,207 27	20,207 27	Work completed.
	Lanesborough:				
	Section A	0.990	19,780 00	19,780 00	Work completed.
	Section B	2.690	53,800 00	53,800 00	Work completed.
29	Ware	2.626	46,557 55	46,557 55	Work completed.
30	Brimfield	4.206	84,120 00	84,120 00	Work completed.
31	Danvers-Peabody	1.107	22,140 00	22,140 00	Work completed.
32	Huntington	3.078	97,163 48	97,163 48	Work completed.
33	Acton-Littleton:				
	Section A	2.182	43,640 00	43,640 00	Work completed.
	Section B	1.624	25,847 25	25,847 25	Work completed.
34	Dudley	1.359	27,180 00	27,180 00	Work completed.
35	Haverhill-Methuen	4.544	90,880 00	90,880 00	Work completed.
36	Eastham-Wellfleet-Provincetown:				
	Section A	10.690	91,347 85	91,347 85	Work completed.
	Section B	6.548	75,935 60	75,935 60	Work completed.
	Section C	8.043	86,130 51	86,130 51	Work completed.
37	Egremont	1.164	20,579 07	20,579 07	Work completed.
38	Peabody-Danvers	2.827	56,540 00	56,540 00	Work completed.
39	Williamstown-New Ashford-				
	Lanesborough:				
	Section A	0.020	9,123 64	9,123 64	Work completed.
	Section B	3.323	65,980 00	65,980 00	Work completed.
	Section C	4.590	68,850 00	68,850 00	Work completed.
40	East Brookfield	1.011	20,220 00	20,220 00	Work completed.
41	Ashby	1.250	22,141 03	22,141 03	Work completed.
42	Washington	2.291	45,820 00	45,820 00	Work completed.
43	Leicester	0.638	12,760 00	12,760 00	Work completed.
44	Goshen-Cummington-Windsor:				
	Section A	1.494	29,880 00	29,880 00	Work completed.
	Section B	1.479	50,183 37	50,183 37	Work completed.
	Section C	3.780	82,915 42	82,915 42	Work completed.
	Section D	3.022	56,786 10		Work underway.
45	Palmer:				
	Sections A and C	1.795	35,900 00	35,900 00	Work completed.
46	Upton-Hopedale:				
	Section A	1.672	33,440 00	33,440 00	Work completed.
47	Barre-Oakham	1.737	37,200 75	37,200 75	Work completed.
50	Lunenburg	1.763	35,260 00	35,260 00	Work completed.
51	Mendon-Uxbridge:				
	Section A	1.959	39,180 00	39,180 00	Work completed.
	Section B	2.504	50,080 00	50,080 00	Work completed.
52	Oxford	3.208	64,160 00	64,160 00	Work completed.
53	East Brookfield-Spencer-West				
	Brookfield:				
	Section A	0.890	17,800 00	17,800 00	Work completed.
	Section B	1.682	33,640 00	33,640 00	Work completed.
54	Leicester:				
	Section A	0.829	16,580 00	16,580 00	Work completed.
	Section B	2.691	53,820 00	53,820 00	Work completed.
55	Quincy	0.549	10,980 00	10,980 00	Work completed.
56	Stoughton	2.141	42,820 00	42,820 00	Work completed.
57	Winchester-Woburn	3.042	59,131 31	59,131 31	Work completed.
58	Littleton	1.345	26,900 00	26,900 00	Work completed.
59	Egremont	0.784	15,678 18	15,678 18	Work completed.
60	Middleton-Danvers	1.907	38,224 70	38,224 70	Work completed.
61	Winchendon-Templeton	5.393	106,117 44	106,117 44	Work completed.
62	Danvers-Topsfield:				
	Section A	3.009	60,180 00	60,180 00	Work completed.
	Section B	3.513	76,959 91	76,959 91	Work completed.
63	Essex-Ipswich	4.489	89,780 00	89,780 00	Work completed.
64	Norwood	1.065	21,300 00	21,300 00	Work completed.
65	North Adams	1.638	32,760 00	32,760 00	Work completed.
69	Haverhill	2.657	53,049 24	53,049 24	Work completed.
70	Palmer	2.550	51,000 00	51,000 00	Work completed.
71	Wrentham	1.846	36,940 00	36,940 00	Work completed.
72	Walpole	3.078	61,560 00	61,560 00	Work completed.
73	Southwick	6.879	111,757 95	111,757 95	Work completed.
74	Becket	0.156	13,095 66	13,095 66	Work completed.
R74	Becket	0.189	10,988 45		Work completed.
75	Topsfield-Ipswich-Rowley-Newbury:				
	Section A	10.207	207,163 37	207,163 37	Work completed.
76	Norfolk	1.447	28,940 00	28,940 00	Work completed.
77	Merrimac	1.020	20,397 73	20,397 73	Work completed.
78	Burlington	3.761	75,220 00	75,220 00	Work completed.
79	Great Barrington	2.991	59,820 00	59,820 00	Work completed.
79B	Great Barrington	0.028	10,098 38	8,522 99	Work completed.
80	Lee:				
	Section A	0.909	18,180 00	18,180 00	Work completed.
	Section B	0.283	4,245 00	4,245 00	Work completed.

STATEMENT OF FEDERAL AID ROAD PROJECTS TO NOV. 30, 1930 (Continued)

No.	Town or City	Miles	Amount of Federal Aid involved	Amount received	Remarks
83	Pembroke	2.121	\$31,815 00	\$31,815 00	Work completed.
84	Sterling-West Boylston	3.491	51,974 04	51,974 04	Work completed.
85	Dalton-(Hinsdale Road):				
	Section A	1.033	20,660 00	20,660 00	Work completed.
	Section B	0.066	7,120 50	7,120 50	Work completed.
86	Gay Head	3.117	40,783 51	40,783 51	Work completed.
87	Dalton (Windsor Road):				
	Section A	1.056	21,120 00	21,120 00	Work completed.
	Section B	0.038	5,429 50	5,429 50	Work completed.
88	Erving	4.537	68,055 00		Work completed.
89	Easton:				
	Sections A and B	3.540	70,800 00	70,800 00	Work completed.
	Section C	3.840	62,400 00	62,400 00	Work completed.
90	Brookfield-East Brookfield	1.227	25,324 95	25,324 95	Work completed.
91	Lowell	0.977	19,537 87	19,537 87	Work completed.
93	Wilbraham	0.208	67,506 06	67,506 06	Work completed.
94	Otis-Sandisfield	7.565	122,931 25	122,931 25	Work completed.
95	Westfield	0.148	12,677 08	12,677 08	Work completed.
96	Rochester-Wareham	4.031	68,979 93	68,979 93	Work completed.
98	Sheffield	3.052	61,133 83	61,133 85	Work completed.
99	Gloucester	1.191	19,353 75	19,353 75	Work completed.
100	Rutland	3.640	59,150 00	59,150 00	Work completed.
101A	Hinsdale	0.297	4,455 00	4,455 00	Work completed.
101B	Hinsdale	0.858	24,116 51	24,116 51	Work completed.
102A	Plainville-Wrentham	3.254	48,810 00	48,810 00	Work completed.
103	Adams	0.568	9,230 00	9,230 00	Work completed.
104	Milton	3.534	70,680 00	70,680 00	Work completed.
105	Rehoboth	1.438	28,760 00	28,760 00	Work completed.
106	Bourne	0.522	35,002 00	35,002 00	Work completed.
107	Southampton	2.203	44,060 00	44,060 00	Work completed.
108	Lakeville-Freetown	4.583	71,706 11	71,706 11	Work completed.
109	West Brookfield	0.066	10,283 73	10,283 73	Work completed.
110	Middleborough-Bridgewater	0.109	24,580 87	24,580 87	Work completed.
111	Braintree	0.371	7,200 00	7,200 00	Work completed.
112	North Attleborough-Attleborough	3.278	65,560 00	65,560 00	Work completed.
113	Swansea	0.692	11,245 00	11,245 00	Work completed.
113B	Swansea-Somerset	3.503	64,439 74	64,439 74	Work completed.
114	Lenox	2.408	39,130 00	39,130 00	Work completed.
115	Plymouth	1.680	25,522 53	25,522 53	Work completed.
116	Norwood-Walpole	2.453	40,878 91	40,878 91	Work completed.
117A	Chelmsford	1.377	27,540 00	27,540 00	Work completed.
117B	Chelmsford-Tyngsboro	4.625	89,713 81	89,713 81	Work completed.
118A	Brookfield	0.620	12,400 00	12,400 00	Work completed.
118B	Brookfield	0.251	3,765 00	3,765 00	Work completed.
119A	Essex	0.406	8,120 00	8,120 00	Work completed.
120A	Lakeville	4.789	71,835 00	71,835 00	Work completed.
120B	Berkeley	0.864	12,960 00	12,960 00	Work completed.
120C	Taunton-Berkeley	2.758	41,370 00	41,370 00	Work completed.
120D	Taunton	0.862	12,930 00	12,930 00	Work completed.
121A	Abington	0.947	17,887 34	17,887 34	Work completed.
121B	Bridgewater	0.113	16,568 31	16,568 31	Work completed.
121C	Weymouth	2.720	40,800 00	40,800 00	Work completed.
121D	East Bridgewater-Whitman	2.000	30,000 00	30,000 00	Work completed.
121E	Abington	1.088	14,770 42	14,770 42	Work completed.
122A	Barnstable	0.066	18,711 51	18,711 51	Work completed.
122B	Barnstable-Mashpee	2.482	36,349 09	36,349 09	Work completed.
122C	Falmouth-Mashpee	8.137	132,939 21		Work completed.
122D	Barnstable	5.643	84,645 00		PS&E sent
123A	Southampton	2.461	47,155 67	47,155 67	Work completed.
124A	Wayland	0.189	30,296 68	30,296 68	Work completed.
124B	Marlborough	1.626	24,390 00	24,390 00	Work completed.
125A	Wareham	3.086	63,316 11	68,316 11	Work completed.
125B	Wareham	2.761	41,415 00	41,415 00	Work completed.
127A	Holyoke	4.136	62,040 00	62,040 00	Work completed.
127B	Easthampton-Northampton	1.762	84,084 87		Work completed.
128A	Hinsdale	0.066	8,598 63	8,598 63	Work completed.
128B	Hinsdale	0.952	14,280 00	14,280 00	Work completed.
129A	Dighton-Somerset	3.465	51,975 00	51,975 00	Work completed.
129B	Somerset	4.340	65,511 29	65,511 29	Work completed.
130A	Auburn-Oxford	4.208	63,120 00	63,120 00	Work completed.
131A	Wilbraham	0.530	7,950 00	7,950 00	Work completed.
131B	Wilbraham	1.012	15,180 00	15,180 00	Work completed.
132A	Duxbury-Kingston	2.123	31,845 00	31,845 00	Work completed.
133A	North Andover	0.615	9,225 00	9,225 00	Work completed.
133B	North Andover	0.771	11,565 00	11,565 00	Work completed.
134A	Barre	1.217	18,255 00	18,255 00	Work completed.
134B	Barre	1.261	18,915 00	18,915 00	Work completed.
134C	Barre	1.617	24,255 00		Work completed.
135A	Russell	0.557	13,919 60	13,919 60	Work completed.
135B	Westfield-Russell	3.607	54,075 00	54,075 00	Work completed.
135C	Russell	3.291	54,052 37	53,059 55	Work completed.
135D	Russell-Huntington	3.670	55,050 00	55,050 00	Work completed.
136A	Agawam	1.331	19,965 00	19,965 00	Work completed.

STATEMENT OF FEDERAL AID ROAD PROJECTS TO NOV. 30, 1930 (Continued)

No.	Town or City	Miles	Amount of Federal Aid involved	Amount received	Remarks
136B	Agawam	1.515	\$22,725 00	\$22,725 00	Work completed.
136C	Agawam	1.000	15,000 00	15,000 00	Work completed.
137A	Sheffield	0.170	22,710 05	22,710 05	Work completed.
137B	Sheffield	1.532	22,980 00		PS&E sent
138A	Chester	0.097	10,818 36	10,818 36	Work completed.
138B	Chester	4.250	99,063 09		Work completed.
139A	Brimfield	0.103	6,075 05	6,075 05	Work completed.
139B	Brimfield	4.778	69,410 72	68,916 18	Work completed.
140A	Lenox-Lee	3.519	52,785 00	52,785 00	Work completed.
140B	Lee	0.057	26,620 13	26,620 13	Work completed.
141A	Williamsburg	0.211	8,880 65	8,880 65	Work completed.
141B	Goshen-Williamsburg	5.042	93,547 40	93,547 40	Work completed.
141C	Northampton-Williamsburg	4.146	62,190 00	62,190 00	Work completed.
142A	Fitchburg-Westminster	3.960	69,171 34	69,171 34	Work completed.
142B	Gardner-Westminster	3.699	52,316 73	52,316 73	Work completed.
142C	Gardner-Templeton	4.174	62,610 00		Work completed.
143	Fairhaven-Mattapoisett	3.245	52,079 86	52,079 86	Work completed.
144A	Canton-Stoughton	4.306	64,436 20	64,436 20	Work completed.
145A	Ashland-Holliston	3.330	34,645 01	34,645 01	Work completed.
146A	Paxton	1.783	26,745 00	26,745 00	Work completed.
146B	Paxton-Worcester	4.930	73,950 00	73,950 00	Work completed.
147A	Lenox-Pittsfield	2.349	35,235 00	35,235 00	Work completed.
148A	Raynham	1.657	24,855 00	24,855 00	Work completed.
148B	Raynham-Taunton	2.861	42,915 00	42,915 00	Work completed.
149A	Middleborough	5.586	83,790 00	83,790 00	Work completed.
149B	Middleborough	0.831	12,465 00		Work underway.
150A	Littleton-Westford	1.985	29,775 00	29,775 00	Work underway.
150B	Westford	2.660	39,900 00	39,900 00	Work underway.
151A&B	Swansea-Somerset	0.464	89,138 06	89,138 06	Work underway.
152A	Dartmouth	1.401	21,015 00	21,015 00	Work underway.
152B	Dartmouth	2.858	42,870 00	42,870 00	Work completed.
152C	Westport	4.634	69,510 00	69,510 00	Work completed.
153A	Southampton-Easthampton	1.410	21,150 00	21,150 00	Work completed.
154A	Sturbridge	2.503	37,545 00	37,545 00	Work completed.
155A	West Springfield	0.549	8,235 00	8,235 00	Work completed.
156A	Orange	1.058	15,870 00	15,870 00	Work completed.
156B	Orange	2.607	39,105 00		Work completed.
156C	Athol-Orange	1.544	32,659 27		Work underway.
157A	Sandisfield-Tolland	0.644	34,803 50	34,803 50	Work completed.
R157A	Sandisfield-Tolland	0.644	5,660 87		Work completed.
157B	Sandisfield	0.473	32,037 28	32,037 28	Work completed.
157C	Sandisfield-Tolland	3.038	45,570 00		Work completed.
157D	Sandisfield	0.219	16,194 60		Work completed.
158A	Dalton	0.430	22,087 67	22,087 67	Work completed.
159A	Seekonk-Rehoboth-Swansea	1.899	49,876 52	49,876 52	Work completed.
159B	Seekonk	2.251	33,765 00	33,765 00	Work completed.
159C	Swansea	2.767	41,505 00	41,505 00	Work completed.
160A	Lenox-Lee-Stockbridge	5.453	81,795 00	81,795 00	Work completed.
161A	Brockton-W. Bridgewater	3.823	57,345 00	57,345 00	Work completed.
161B	Avon-Brockton	2.201	33,015 00		Work underway.
162A	Holliston	3.315	49,725 00	49,725 00	Work completed.
162B	Milford	1.790	26,850 00	26,850 00	Work completed.
163A	Amherst	0.052	3,787 09	3,787 09	Work completed.
163B	Amherst	2.100	31,500 00	31,500 00	Work completed.
164A	Westminster-Winchendon	0.750	48,475 74	26,555 45	Work completed.
164B	Westminster-Ashburnham	3.607	54,105 00	54,105 00	Work completed.
164C	Ashburnham	3.776	56,640 00	56,640 00	Work completed.
164D	Winchendon	2.826	42,390 00	42,390 00	Work completed.
165A	Winchendon	2.460	36,900 00	36,900 00	Work completed.
166	Becket-Otis	6.043	99,077 00	99,077 00	Work completed.
168A	Deerfield	3.043	45,645 00	45,645 00	Work completed.
169A	Merrimac-Amesbury	3.397	50,955 00	50,955 00	Work completed.
171A	Chelmsford	1.536	23,040 00	23,040 00	Work completed.
172A	Leominster-Sterling	2.718	40,770 00	40,770 00	Work completed.
173A	Cheshire	4.377	74,965 81	74,965 81	Work completed.
173B	Lanesboro	1.742	26,130 00	26,130 00	Work completed.
174A	Marshfield	4.533	67,995 00	67,995 00	Work completed.
175A	Sandwich	0.217	22,181 26	22,181 26	Work completed.
175B	Orleans	1.904	23,601 55	23,601 55	Work completed.
175C	Barnstable	0.927	13,905 00	13,905 00	Work completed.
175D	Sandwich	2.364	35,460 00		Work underway.
175E	Brewster-Orleans	7.858	117,870 00		Work completed.
176A	Plymouth	5.032	70,543 35	70,543 35	Work completed.
176B	Plymouth-Bourne	2.948	44,220 00		PS&E Approved.
177A	Chatham	3.964	48,588 18	48,588 18	Work completed.
177B	Orleans	1.802	25,838 02	25,838 02	Work completed.
177C	Dennis	3.219	48,258 37	38,734 30	Work completed.
178A	Chelmsford	1.262	18,930 00	18,930 00	Work completed.
179A	Falmouth	3.394	50,910 00	50,910 00	Work completed.
180A	Franklin-Wrentham	3.125	46,875 00	46,875 00	Work completed.
180B	Bellingham-Franklin	3.889	58,335 00	58,335 00	Work completed.
181A	Florida-North Adams	2.818	42,270 00		Work completed.
181B	Florida	2.736	41,040 00	41,040 00	Work completed.

STATEMENT OF FEDERAL AID ROAD PROJECTS TO NOV. 30, 1930 (*Continued*)

No.	Town or City	Miles	Amount of Federal Aid involved	Amount received	Remarks
181C	North Adams-Clarksburg	3.362	\$50,430 00	\$50,430 00	Work completed.
181D	Florida-Savoy	3.702	55,530 00		Work completed.
182A	Lunenburg	1.312	19,680 00	19,680 00	Work completed.
183A	Amesbury-Salisbury	1.922	28,830 00	28,830 00	Work completed.
183B	Amesbury	1.329	45,345 32	45,345 32	Work completed.
184A	Charlton	2.848	42,720 00	42,720 00	Work completed.
184B	Charlton-Sturbridge	5.623	84,345 00		Work completed.
185A	Buckland	1.245	18,675 00	18,675 00	Work completed.
185B	Charlemont	2.433	36,495 00		Work completed.
185C	Charlemont	0.421	54,688 84		Work underway.
186	Salisbury	2.405	36,075 00	36,075 00	Work completed.
187A	Bellingham	1.225	18,375 00	18,375 00	Work completed.
188A	Townsend	3.813	57,195 00	57,195 00	Work completed.
188B	Pepperell-Groton	3.368	50,520 00	50,520 00	Work completed.
189A	Marion-Wareham	0.582	82,770 63		Work completed.
189B	Mattapoisett	1.804	27,060 00	27,060 00	Work completed.
189C	Marion	4.554	68,310 00		Work completed.
189D	Wareham	1.344	20,160 00		PS&E approved.
190A	Becket	2.254	33,810 00	33,810 00	Work completed.
191A	Falmouth	5.896	81,094 43	81,094 43	Work completed.
191B	Falmouth	1.752	26,280 00	26,280 00	Work completed.
192A	Groveland	1.643	24,645 00	24,645 00	Work completed.
192B	Newburyport	1.745	26,175 00	26,175 00	Work completed.
193A	Hadley	1.985	25,821 78	25,821 78	Work completed.
193B	Hadley	2.662	31,715 99		Work completed.
194A	Athol-Phillipston-Templeton	4.738	71,070 00	71,070 00	Work completed.
195A	Mansfield-Norton	0.960	17,862 40	17,862 40	Work completed.
195B	Mansfield-Norton	2.617	39,255 00	39,255 00	Work completed.
196A	Millbury-Grafton	4.440	66,600 00	66,600 00	Work completed.
197	Plymouth	6.543	98,035 70	96,288 19	Work completed.
198A	Milford-Hopedale-Upton	4.418	66,270 00		Work completed.
199A	Newbury	0.303	163,208 90		Work completed.
200A	Rehoboth	1.875	28,125 00		Work completed.
200B	Taunton-Dighton-Rehoboth	5.690	87,403 64		Work completed.
201	Wilbraham	1.530	22,950 00		Work completed.
202A	Hanover-Pembroke	2.061	47,089 23		Work completed.
203	Natick-Wellesley	2.066	30,990 00		Work completed.
204	Erving	3.214	48,210 00		Work completed.
205	Dalton	0.913	23,981 28		Work completed.
206A	Billerica	1.898	35,451 68		Work completed.
207A	Bridgewater-Middleboro	10.474	179,296 63		Work completed.
208A	Waltham-Weston	0.280	64,831 45		Work underway.
209A	Milton-Quincy-Randolph	3.315	49,725 00		Work underway.
210A	Becket-Lee	7.192	107,880 00		Work underway.
211A	Northboro-Shrewsbury-Southboro	11.272	444,715 17		Work underway.
212	North Attleboro	2.123	46,890 51		Work underway.
213	Attleborough	1.455	71,636 00		Work underway.
214A	Tyngsborough	0.540	237,522 35		Work underway.
215A	Palmer-Monson	0.606	98,900 75		Work underway.
216A	Dedham	0.738	11,070 00		Work underway.
217	Chester-Huntington	3.781	62,326 87		PS&E sent.
Total		782.396	\$14,351,837 08	\$10,842,971 08	

BRIDGES

During the year the Department has prepared designs and plans for, and done other work relating to, bridges throughout the Commonwealth. The various cities and towns, the localities therein, the character of the structure and other details are as follows:—

BRIDGES AND STRUCTURES BUILT OR CONTRACTED FOR

Cities and Towns, Locality and Character of Structure

Adams—Grove Street over the Raceway; one 14-foot span, reinforced concrete slab.

Ashfield—Conway Road over South Bend Brook; one 20-foot span, reinforced concrete slab.

Athol—Orange Road over West Brook; one 26-foot span, reinforced concrete slab.

Attleboro—Newport Avenue over the tracks of the New York, New Haven & Hartford Railroad; two 33.5-foot spans and one 60-foot span, steel stringers and reinforced concrete floor.

- Bellingham — Hartford Avenue at Mendon line, over Charles River; one 13-foot span, reinforced concrete slab.
- Blandford — Otis Road over Peeble Brook; two 20-foot spans and one 44-foot span, reinforced concrete beam and slab.
- Bridgewater — Bedford Street at Middleborough line over Taunton River; two 38-foot spans and one 45-foot span, reinforced concrete beam and slab.
- Dalton — Windsor Road over Waconah Brook; two 30-foot spans, reinforced concrete beam.
- Dighton — Providence Road over a brook; one 11-foot span, reinforced concrete slab.
- Dover — Willow Street at Needham line over Charles River; one 55-foot span, reinforced concrete arch.
- Dudley — Southbridge Road over Quinebaug River and Canal; three 58-foot spans, steel beam and reinforced concrete slab.
- Hanover — At Pembroke line over North River; one 71.5-foot span, reinforced concrete arch.
- Harwich — Lower County Road over Herring River; eight 17-foot spans, creosoted wood pile bridge.
- Hudson — Main Street over Assabet River; two 27-foot spans, reinforced concrete beam and slab.
- Ludlow — Putts Bridge at Springfield line over Chicopee River; two 52-foot spans, two 62-foot spans, deck plate girder spans, and one 150-foot span steel truss with reinforced concrete floors.
- Middleborough — Grove Street over Nemasket River; one 34-foot span, reinforced concrete beam and slab.
- Monson — Brimfield Road at Palmer line over Quaboag River; two 35-foot spans, reinforced concrete beam and slab.
- Newbury — Hanover Street over Little River; one 44-foot span, steel pony truss with reinforced concrete floor.
- Northborough — New Worcester Turnpike over proposed road; one 56-foot span, steel stringers with reinforced concrete floor.
- Palmer — Brimfield Road over the tracks of the Boston & Albany Railroad and State highway; one 58-foot span and one 83-foot span; steel stringers and steel plate girder with reinforced concrete floor.
- Peru — Middlefield Road over branch of Housatonic River; one 19-foot span, reinforced concrete slab.
- Royalston — Athol Road over Lawrence Brook; one 29-foot span, stone faced, reinforced concrete arch.
- Sandisfield — New Boston Road over Farmington River; one 77-foot span, steel pony truss with reinforced concrete floor.
- Shrewsbury — Worcester Turnpike over Boston & Worcester Street Railway Company tracks; length 97 feet, wood trestle with steel stringers.
- Shrewsbury — Worcester Turnpike over Grafton Street; one 35-foot span, reinforced concrete beam and slab.
- Southborough — Cordaville Road over Worcester Turnpike; two 60-foot spans, steel stringers with reinforced concrete floor.
- Tyngsborough — Nashua Road over Marshall Brook; one 29-foot span, reinforced concrete arch.
- Tyngsborough — Over the tracks of the Boston & Maine Railroad and Merrimack River; one 58.5-foot span, steel beams with concrete floor, and one 547-foot steel arch with concrete floor.
- Waltham — Weston Street at Weston line, over Stony Brook; reinforced concrete box culvert, 16-foot span.
- Wareham — Sawyer Road over Agawam River; one 30-foot span, reinforced concrete beam and slab.
- Westborough — Worcester Turnpike over Assabet River; one 38-foot span, steel stringers and concrete floor.
- Westborough — Worcester Turnpike over East Main Street; one 58-foot span, steel stringers and concrete floor.

- Westborough — Worcester Turnpike over Milk Street; one 35-foot span, reinforced concrete beam and slab.
- Williamstown — Pittsfield Road over Green River; one 42-foot span, reinforced concrete beam and slab.

ALTERATIONS, REPAIRS AND EXTENSIONS TO BRIDGES AND STRUCTURES
COMPLETED IN 1930

Cities and Towns, Locality and Character of Work

- Becket — Jacob's Ladder Road over brook; reinforced concrete slab extension.
- Becket — Jacob's Ladder Road over Shaw Pond Brook; reinforced concrete slab extension.
- Becket — Jacob's Ladder Road over Ward Pond Brook; reinforced concrete slab extension.
- Billerica — Burlington Road over Shawsheen River; reinforced concrete beam extension.
- East Bridgewater — Bedford Street over Matfield River; reinforced concrete arch extension to stone arch.
- Fairhaven — New Bedford line over New Bedford Harbor; piers repaired with gunite.
- Gardner — Templeton Road over Kneeland Brook; reinforced concrete slab extension.
- Gardner — Templeton Road over Wilder Brook; reinforced concrete slab extension.
- Hanover — West Elm Street at Pembroke line over Indian Head River; stone faced, reinforced concrete arch extension of stone arch.
- Lee — Jacob's Ladder Road over Green Water Pond Brook; reinforced concrete slab extension.
- Lunenburg — Summer Street over Baker Brook; stone arch extension.
- Natick — Framingham Road over outlet from Reservoir; reinforced concrete slab extension.
- Natick — Framingham Road over outlet from Reservoir; reinforced concrete slab extension to stone arch culvert.
- Newbury — Newburyport Turnpike over Parker River; reinforced concrete beam and slab extension.
- North Attleborough — Elm Street over Ten Mile River; reinforced concrete slab extension.
- North Attleborough — Jefferson Street over Ten Mile River; reinforced concrete slab extension.
- North Attleborough — Orne Street over Ten Mile River; reinforced concrete slab extension.
- North Attleborough — Providence Turnpike over Seven Mile River; reinforced concrete slab extension.
- Orange — Erving Road over Mill Pond; reinforced concrete pile trestle extension.
- Orange — Erving Road over Orcutt Brook; reinforced concrete beam extension.
- Rehoboth — Providence Road over Palmer River; reinforced concrete slab extension.
- Taunton — Providence Road over Segregansett River; reinforced concrete beam extension.
- Templeton — Gardner Road over Otter River; reinforced concrete slab extension.
- Tyngsborough — Dunstable Road over Mill Pond; reinforced concrete slab extension.
- Wareham — Fearing Hill Road over Weweantic River; reinforced concrete slab extension.
- West Springfield — Extension to culvert on State highway.
- Windsor — Windsor Hill Road over Baldwin Brook; reinforced concrete beam extension.

CONTEMPLATED BRIDGES AND STRUCTURES

*Plans, Studies or Estimates made**Cities and Towns, Locality and Character of Structure*

- Bernardston — Northfield Road over the tracks of the Boston and Maine Railroad; three 41-foot spans, reinforced concrete trestle bridge.
- Charlemont — Mohawk Trail over tracks of Boston and Maine Railroad; three 58-foot spans, steel stringer with reinforced concrete floor.
- Chester — Over Gold Mine Brook; one 26-foot span, reinforced concrete slab.
- Framingham — Over tracks of the Old Colony Division, New York, New Haven and Hartford Railroad and over Worcester Turnpike; one 50-foot span, steel stringer bridge.
- Groton — At Pepperell line over Nashua River; eight 20-foot spans, reinforced concrete pile bridge.
- Hingham — At Hull line over Weir River; solid fill and three 61-foot steel girder spans.
- Hinsdale — Washington Road over the tracks of Boston and Maine Railroad.
- Ipswich — Rowley Road over Boston and Maine Railroad.
- Millbury — Worcester by-pass over the tracks of New York, New Haven and Hartford Railroad, Main Street, and Blackstone River.
- Northborough — Boston Post Road over Assabet River; extension to stone arch, one 13-foot span.
- Northborough — Relocated Boston Post Road over aqueduct of Metropolitan District Water supply; one 46-foot span, reinforced concrete beam and slab.
- North Reading — State highway over tracks of Boston and Maine Railroad; one 31-foot span, steel stringer bridge.
- Palmer — Over Quaboag River; extension of one 50-foot span and two 20-foot spans, stone arch.
- Pepperell — Over Mill Pond outlet; extension of two 12.5-foot spans, reinforced concrete slab.
- Pepperell — Primus Station over tracks of Boston and Maine Railroad; three 25-foot spans, steel stringer bridge.
- Revere — Beach Street over tracks of Boston and Maine Railroad.
- Rowley — State highway over tracks of Boston and Maine Railroad at Bean Crossing; one 44-foot span.
- Salisbury — Elm Street over tracks of Boston and Maine Railroad; one 45-foot span.
- Sturbridge — Southbridge Road over Hobbs Brook; extension to 10-foot span stone arch.
- Weston — Near Stony Brook Station over tracks of Boston and Maine Railroad, Fitchburg Division; two 42-foot spans and one 64-foot span, steel girders and reinforced concrete floor. (Being built by Boston and Maine Railroad.)
- Worcester — Worcester by-pass under tracks of Boston and Albany Railroad.

*Examinations, Reports, Estimates, etc., at Request of Cities and Towns**Towns, Locality and Character of Work*

- Agawam — At West Springfield line over Westfield River; examination, report and estimate for repairs to two span steel truss.
- Billerica — Shawsheen Avenue over Shawsheen River at Wilmington line; Aqueduct bridge, examination, report and estimate for repairs and widening.
- Billerica — Whipple Street at Wilmington line over Shawsheen River; plan and specifications prepared for one 17-foot span, reinforced concrete slab.
- Bourne — Falmouth Road over Back River; estimate for reconstruction of bridge.
- Hudson — Main Street over Assabet River; examination and report on existing bridge and estimate for reconstruction.
- Lancaster — Mill Street over Nashua River; estimate for reconstruction.
- Marshfield — Beach Street over Cut River; inspection and report on strength of existing bridge and estimate for reconstruction.

Examinations, Reports, Estimates, etc., by direction of the Department

Cities and Towns, Locality and Subject

- Amesbury — Chain Bridge over Merrimack River at Newburyport line; examination and report on strength of bridge.
- Amesbury — Essex-Merrimac Bridge over Merrimack River; examination, report and estimate for equipment with power operation of draw and gates.
- Boston — Commonwealth Pier; report on strength of roof trusses.
- Boston — Commonwealth Pier Viaduct; examination and report on strength of sidewalk.
- Duxbury — Examination and estimate for repairs to Myles Standish monument.
- Framingham — Reformatory for Women; design for garage floor; and design of coal pocket.
- Middleborough — Grove Street over tracks of New York, New Haven and Hartford Railroad; examination, report and estimate for reconstruction of two bridges.
- Quincy — Fore River Bridge at Weymouth line; study and estimate for new bridge.
- Shrewsbury — Worcester Turnpike; design and estimate for retaining wall.
- Westfield — Main Street over Little River; examination, report and estimate for repairs to steel truss bridge.
- Special Commission on Bridges — Estimate of costs in the next ten years for reconstruction of bridges on important routes in State.

Bridge Plans Submitted and Examined during the Year under the provisions of Chapter 85, General Laws, as amended by Chapter 313 of Acts of 1923

- Fitchburg — Kimball Street over Nashua River; two 40-foot spans, steel stringers with reinforced concrete floor; approved July 25, 1930.
- Groton — West Groton Road over Nashua River; two 46-foot spans, reinforced concrete beam; approved June 23, 1930.
- Lancaster — Mill Street over Nashua River; two 35-foot spans, reinforced concrete beam; approved June 23, 1930.
- North Adams — West Main Street over Hoosic River; one 62-foot span, reinforced concrete arch; approved May 26, 1930.
- Peabody — Caller Street over North River; one 16-foot span, wood stringer with plank floor; approved June 3, 1930.
- Pittsfield — Newell Street over Housatonic River; one 75-foot span, steel plate girder; approved May 12, 1930.
- Scituate — Edward Foster Road over Scituate Harbor; two 15.4-foot spans and one 36.25-foot span, reinforced concrete beam; approved August 2, 1930.
- Taunton — Bay Street over Mill River; one 31-foot span, reinforced concrete beam; approved September 9, 1930.
- Taunton — Whittenton Street over Mill River; two 19.5-foot spans, reinforced concrete beam; approved May 9, 1930.

Examinations, Studies, Estimates and Reports by direction of Acts and Resolves of the Legislature

Chapter 42, Resolves of 1929. Report on "bridges, abutments and approaches which carry public highways over the location of the Southern New England Railroad Corporation and over the former location of the Hampden Railroad Corporation".

Chapter 406, Acts of 1930, New Bedford-Fairhaven Bridge.

The care of the bridge over the tracks of the New York, New Haven and Hartford Railroad and the Acushnet River between Fairhaven and New Bedford was transferred to the Department by the provisions of Chapter 406, Acts of 1930, on May 28, 1930. The Act directed that the bridge be made a State highway and the expenses of keeping the bridge in repair for travel and of operating the draw and of maintaining the bridge to be paid by the Commonwealth.

The construction of the bridge was begun in 1892 and was completed in 1900,

being first opened to traffic on October 11th of that year. There are thirteen spans of deck plate girders between New Bedford and Fish Island, five spans of deck plate girders and a 290-foot through truss draw span between Fish Island and Popes Island, and nine spans of deck plate girders between Popes Island and Fairhaven. There are 2,051 feet of bridge structure and 2,818 feet of solid fill, a total of 4,869 feet. The bridge measures 70 feet from center to center of fence rails. The first cost of the bridge was \$1,330,000, including land damages of \$160,000. Averaged over a period of years, the draw openings have numbered more than 2,900 annually.

Plans are being made for extensive repairs to the bridge in 1931.

Chapter 420, Acts of 1930 — Part 1, authorizing the following improvements:

Boston — Bridges over the tracks of the Providence Division and the Needham Branch of the New York, New Haven and Hartford Railroad.

Canton — At Dedham and Westwood lines; bridge over Neponset River.

Needham — Bridge over the tracks of the Needham and Woonsocket Branch of the New York, New Haven and Hartford Railroad.

Revere — Overpass at or near junction of Revere Beach parkway and Broadway.

Westwood — Bridges over the tracks of the Providence Division and the Midland Division of the New York, New Haven and Hartford Railroad.

Chapter 48, Resolves of 1930. Investigation for improvement of highway conditions at the following locations:

Arlington, Medford and Somerville — Bridges over Mystic River.

Boston — Underpass and approaches at Harvard Bridge.

Boston and Cambridge — Grade separations at termini of River Street bridge, Western Avenue bridge and Larz Anderson bridge; and bridge and approaches at Gerry's Landing.

Cambridge — Traffic circle at Cottage Farm bridge.

Everett — Grade separation and traffic circle at junction of Revere Beach Parkway and Broadway and Main Street.

Revere — Bridges over tracks of the Boston and Maine Railroad and the Boston, Revere Beach and Lynn Railroad, in the extension of Squire Road to the Revere Beach Parkway.

Somerville — Grade separation at junction of Northern Traffic Artery and Washington Street.

BRIDGE OVER THE MERRIMACK RIVER BETWEEN NEWBURYPORT AND SALISBURY

This bridge was placed in charge of the Massachusetts Highway Commission and made a State highway by the provisions of Chapter 716, Acts of 1912, which also provided that the expense of keeping the bridge in good repair for travel, of operating the draw and of maintaining the structure shall be paid by the Commonwealth.

The number of draw openings during the year ending November 30, 1930, was 335. In 1929 the number of such openings was 386; in 1928 the number was 365; in 1927 the number was 200.

The total expenditure during the year was \$4,775.76.

The total expenditure from 1912 to November 30, 1930, inclusive, was \$148,087.36.

BRIDGE OVER TAUNTON RIVER BETWEEN FALL RIVER AND SOMERSET

This bridge was placed in charge of the Massachusetts Highway Commission and made a State highway by the provisions of Chapter 717, Acts of 1912, which also provided that the expense of keeping the bridge in good repair for travel, and for operating the draw and maintaining the structure shall be paid by the Commonwealth.

The number of draw openings during the year ending November 30, 1930, was 1,812. In 1929 the number of such openings was 1,789; in 1928 the number was 1,982; in 1927 the number was 2,043.

The total expenditure during the year was \$15,243.90.

The total expenditure from 1912 to November 30, 1930, inclusive, was \$327,980.74.

BRIDGE OVER THE ACUSHNET RIVER BETWEEN THE CITY OF NEW BEDFORD AND THE TOWN OF FAIRHAVEN

This bridge was placed in charge of the Department of Public Works and made a State highway by the provisions of Chapter 406, Acts of 1930, which also provided that the expense of keeping the bridge in good repair for travel, of operating the draw and of maintaining the structure shall be paid by the Commonwealth. The Department took charge of this bridge on June 27, 1930.

The construction of the bridge was begun in 1892 and was completed in 1900, being first opened to traffic on October 11th of that year. There are thirteen spans of deck plate girders between New Bedford and Fish Island, five spans of deck plate girders and a 290-foot through truss draw span between Fish Island and Popes Island, and nine spans of deck plate girders between Popes Island and Fairhaven. There are 2,051 feet of bridge structure and 2,818 feet of solid fill, a total of 4,869 feet. The bridge measures 70 feet from center to center of fence rails. The first cost of the bridge was \$1,330,000, including land damages of \$160,000. Averaged over a period of years, the draw openings have numbered more than 2,900 annually.

The number of draw openings while in charge of the Department beginning June 27, 1930, and ending November 30, 1930, was 1,069.

The total expenditure during the year was \$10,065.56.

CONSTRUCTION OF TOWN AND COUNTY WAYS

(Section 34, Chapter 90, General Laws, as revised by section 1, chapter 112, Acts of 1921, chapter 288, Acts of 1925, section 316, Acts of 1928, and section 4, chapter 343, Acts of 1929.)

During the year the Department has contracted for work to be done in the towns or cities named in the following table, which also shows the type of road, the length contracted for, and the allotments or contributions by the State, towns and counties:

COUNTIES AND TOWNS	State	CONTRIBUTIONS Town	County	Type of Road	Length contracted for (Feet)
<i>Barnstable County</i>					
Dennis	\$12,000 00	\$6,000 00	\$6,000 00	Bituminous concrete	6,590
Harwich	20,000 00	10,000 00	5,000 00	Bridge and approaches	—
Provincetown	7,000 00	7,000 00	7,000 00	Bituminous concrete	2,988
<i>Berkshire County</i>					
Adams	8,000 00	8,000 00	—	Bridge and approaches	—
Alford	1,000 00	500 00	500 00	Gravel	700
Alford	300 00	—	300 00	Repairs	—
Becket	1,000 00	500 00	1,000 00	Gravel	1,700
Becket	2,000 00	1,000 00	1,000 00	Gravel	1,400
Cheshire	5,000 00	2,700 00	3,000 00	Gravel	4,700
Clarksburg	1,000 00	500 00	500 00	Gravel	3,000
Egremont	3,450 00	1,725 00	1,725 00	Gravel	9,075
Florida	4,000 00	4,000 00	—	Gravel	1,400
Great Barrington	2,000 00	2,000 00	—	Gravel and tar	6,900
Great Barrington	9,000 00	9,000 00	—	Bituminous macadam	2,719
Hancock	300 00	250 00	—	Oiling	8,500
Hancock	1,000 00	500 00	1,000 00	Gravel	650
Hancock	1,000 00	300 00	—	Oiling	31,680
Hancock	25,000 00	1,000 00	4,000 00	Bituminous macadam	5,500
Hinsdale	2,000 00	1,000 00	1,000 00	Gravel	5,050
Hinsdale	2,550 00	500 00	750 00	Gravel	1,800
Lanesborough	4,000 00	2,000 00	2,000 00	Bituminous concrete	3,000
Lenox	10,000 00	10,000 00	—	Bituminous macadam	2,560
Lenox	10,000 00	10,000 00	—	Bituminous macadam	2,600
Monterey	5,500 00	3,000 00	5,500 00	Bituminous macadam	2,200
Mount Washington	1,500 00	500 00	1,000 00	Gravel	650
New Marlborough	1,000 00	1,000 00	1,000 00	Gravel	900
New Marlborough	6,000 00	4,000 00	3,000 00	Gravel and tar	18,000
North Adams	15,000 00	45,000 00	—	Bituminous macadam and reinforced cement concrete	1,620
Otis	1,000 00	500 00	1,000 00	Gravel	650
Richmond	2,500 00	1,000 00	1,500 00	Gravel	1,600
Sandisfield	4,000 00	2,000 00	2,000 00	Gravel	2,000
Savoy	15,000 00	—	5,000 00	Gravel and tar	3,350
Sheffield	2,000 00	1,000 00	1,000 00	Gravel	1,225
Stockbridge	30,000 00	30,000 00	—	Bituminous macadam	8,300
Tyringham	2,000 00	1,000 00	1,000 00	Bituminous macadam	850
Washington	4,000 00	2,000 00	2,000 00	Gravel	3,750

COUNTIES AND TOWNS	CONTRIBUTIONS		County	Type of Road	Length con- tracted for (Feet)
	State	Town			
Washington . . .	\$300 00	—	—	Bridge repairs . . .	—
West Stockbridge . . .	6,000 00	\$3,000 00	\$3,000 00	Gravel	2,500
Williamstown . . .	2,000 00	4,000 00	—	Gravel	1,625
Windsor	1,000 00	500 00	500 00	Culvert	—
Windsor	1,000 00	500 00	500 00	Gravel	700
<i>Bristol County</i>					
Berkley	2,000 00	2,000 00	—	Repairs and oiling . . .	29,700
Berkley	5,000 00	5,000 00	5,000 00	Gravel	4,700
Dighton	18,000 00	18,000 00	—	Bituminous macadam . .	6,500
Easton	2,500 00	2,500 00	—	Repairs and oiling . . .	6,600
Freetown	6,000 00	2,000 00	6,000 00	Gravel	4,450
Freetown	1,000 00	1,000 00	—	Repairs and oiling . . .	59,136
Norton	3,000 00	1,000 00	2,000 00	Gravel	2,050
Norton	20,000 00	10,000 00	10,000 00	Bituminous macadam . .	5,750
Rehoboth	6,000 00	6,000 00	6,000 00	Waterbound macadam . .	3,150
Swansea	900 00	300 00	—	Bituminous macadam . .	—
Westport	3,000 00	3,000 00	—	Bituminous macadam . .	1,430
<i>Dukes County</i>					
Chilmark	63,000 00	4,500 00	22,500 00	Bituminous concrete . .	22,175
<i>Essex County</i>					
Andover	8,500 00	10,000 00	7,000 00	Reinforced cement concrete	2,356
Andover	400,000 00	75,000 00	(Phillips	Bituminous macadam and	
North Andover . . .			Academy)	reinforced cement concrete	24,256
Beverly	7,500 00	15,000 00	7,500 00	Bituminous macadam . .	3,700
Boxford	2,000 00	2,000 00	2,000 00	Gravel	2,500
Boxford	2,500 00	2,500 00	2,500 00	Gravel	2,700
Boxford	40,800 00	7,200 00	24,000 00	Bituminous macadam . .	8,086
Boxford	1,000 00	1,000 00	—	Repairs	—
Danvers	5,000 00	5,000 00	5,000 00	Bituminous macadam . .	2,425
Georgetown	25,500 00	4,500 00	15,000 00	Bituminous macadam . .	6,447
Georgetown	2,000 00	2,000 00	—	Repairs	—
Groveland	2,000 00	2,000 00	—	Repairs	—
Hamilton	10,000 00	10,000 00	10,000 00	Bituminous macadam . .	4,008
Haverhill	15,000 00	30,000 00	15,000 00	Bituminous macadam . .	6,521
Ipswich	2,000 00	2,000 00	—	Repairs	—
Lawrence	3,000 00	6,000 00	3,000 00	Bituminous macadam . .	2,340
Lynnfield	10,000 00	10,000 00	10,000 00	Bituminous macadam . .	4,650
Marblehead	12,000 00	12,000 00	12,000 00	Bituminous macadam . .	4,709
Merrimac	10,000 00	10,000 00	10,000 00	Gravel	10,900
Merrimac	2,500 00	2,500 00	—	Repairs	—
Methuen	4,000 00	5,000 00	4,000 00	Bituminous macadam . .	1,800
Methuen	4,000 00	5,000 00	4,000 00	Bituminous macadam . .	2,500
Middleton	2,500 00	2,500 00	—	Repairs	—
Middleton	4,500 00	4,500 00	4,500 00	Gravel	4,250
Newbury	5,500 00	5,500 00	5,000 00	Bridge and approaches .	—
Newbury	1,000 00	1,000 00	—	Repairs	—
Rockport	10,000 00	10,000 00	10,000 00	Bituminous macadam . .	4,620
Rockport	10,000 00	10,000 00	10,000 00	Bituminous macadam . .	3,900
Rowley	17,000 00	3,000 00	10,000 00	Bituminous macadam . .	4,800
Rowley	1,000 00	1,000 00	—	Repairs	—
Rowley	500 00	500 00	—	Oiling	11,000
Salem	3,000 00	3,000 00	3,000 00	Bituminous macadam . .	1,505
Salisbury	700 00	700 00	—	Repairs	—
Swampscott	3,000 00	3,000 00	3,000 00	Bituminous concrete . .	3,786
Topsfield	1,000 00	1,000 00	—	Repairs	—
Topsfield	20,000 00	3,500 00	11,500 00	Bituminous macadam . .	6,000
Wenham	3,300 00	3,300 00	3,300 00	Bituminous macadam . .	1,750
West Newbury	5,000 00	5,000 00	5,000 00	Gravel	3,100
West Newbury	250 00	250 00	—	Repairs	—
<i>Franklin County</i>					
Ashfield	1,500 00	1,500 00	—	Gravel	900
Ashfield	1,500 00	1,500 00	—	Gravel	900
Ashfield	5,000 00	1,500 00	1,000 00	Gravel	2,000
Buckland	7,000 00	5,000 00	1,000 00	Bituminous macadam . .	3,000
Charlemont	2,000 00	1,000 00	1,000 00	Gravel	1,200
Charlemont	1,000 00	—	—	Repairs	6,920
Charlemont	2,000 00	1,000 00	1,000 00	Gravel	800
Colrain	2,000 00	1,000 00	1,000 00	Gravel	1,700
Conway	3,000 00	2,000 00	1,000 00	Gravel	2,400
Deerfield	4,000 00	3,000 00	1,000 00	Bituminous macadam . .	1,750
Erving	3,000 00	2,000 00	1,000 00	Bituminous macadam . .	2,032
Gill	2,000 00	1,000 00	1,000 00	Gravel	1,650
Greenfield	20,000 00	20,000 00	2,000 00	Bituminous macadam . .	4,945
Hawley	1,400 00	700 00	700 00	Gravel	1,500
Hawley	1,400 00	700 00	700 00	Gravel	900
Heath	2,000 00	1,000 00	1,000 00	Gravel	1,500
Leverett	1,000 00	500 00	500 00	Gravel	4,200
Leiden	2,000 00	1,000 00	1,000 00	Gravel	1,400
Monroe	2,000 00	1,000 00	1,000 00	Gravel	1,000
Montague	20,000 00	20,000 00	2,000 00	Bituminous macadam . .	11,918
New Salem	2,000 00	1,000 00	1,000 00	Gravel	2,200
New Salem	3,000 00	1,500 00	1,500 00	Repairs and oiling . . .	17,600
Northfield	4,000 00	2,000 00	2,000 00	Bituminous macadam . .	2,950

COUNTIES AND TOWNS	State	CONTRIBUTIONS Town	County	Type of Road	Length con- tracted for (Feet)
Orange	\$1,000 00	\$1,000 00	\$500 00	Gravel	1,600
Orange	1,000 00	1,000 00	500 00	Repairs and oiling	6,600
Orange	700 00	700 00	—	Repairs and oiling	7,313
Rowe	2,000 00	1,000 00	1,000 00	Gravel	1,500
Shelburne	2,000 00	2,000 00	1,000 00	Gravel	1,800
Shutesbury	2,000 00	1,000 00	1,000 00	Gravel	1,500
Sunderland	2,000 00	1,000 00	1,000 00	Gravel	1,600
Warwick	2,000 00	1,000 00	1,000 00	Gravel	1,400
Warwick	1,200 00	1,200 00	—	Bridge and approaches	—
Wendell	3,000 00	2,000 00	1,000 00	Gravel	1,800
Wendell	1,500 00	1,500 00	—	Oiling	11,088
Whately	19,000 00	3,500 00	3,500 00	Bituminous macadam	5,947
<i>Hampden County</i>					
Agawam	15,000 00	15,000 00	15,000 00	Bituminous macadam	7,020
Agawam	1,250 00	2,500 00	1,250 00	Bituminous macadam	915
Blandford	20,500 00	4,500 00	20,500 00	Bridge and approaches	—
Blandford	2,000 00	1,000 00	2,000 00	Repairs and oiling	4,250
Brimfield	1,500 00	900 00	1,500 00	Bituminous macadam	1,450
Chester	5,000 00	1,000 00	5,000 00	Repairs and oiling	16,960
Chester	1,500 00	200 00	1,500 00	Gravel	2,300
Chester	1,000 00	500 00	1,000 00	Gravel	1,200
Chester	3,500 00	1,000 00	3,500 00	Bituminous macadam	3,500
Chicopee	20,000 00	40,000 00	20,000 00	Gravel	1,750
East Longmeadow	2,500 00	2,500 00	2,500 00	Bituminous macadam	10,775
Granville	5,500 00	3,000 00	5,500 00	Gravel	4,000
Hampden	5,600 00	2,800 00	5,600 00	Gravel	—
Hampden	250 00	—	250 00	Bituminous macadam	3,200
Holland	466 00	466 00	466 00	Bituminous macadam	100
Holland	5,200 00	1,200 00	5,200 00	Repairs and oiling	5,350
Ludlow	25,000 00	31,250 00	25,000 00	Gravel	2,750
Springfield	—	43,750 00	—	Bridge	—
Ludlow	1,600 00	1,600 00	1,600 00	Gravel	850
Monson	3,000 00	2,000 00	3,000 00	Bituminous macadam	1,100
Montgomery	2,500 00	750 00	2,500 00	Gravel	1,900
Palmer	4,500 00	5,000 00	4,500 00	Gravel	2,500
Palmer	10,000 00	10,000 00	10,000 00	Gravel	6,500
Russell	1,500 00	1,500 00	1,500 00	Gravel	2,425
Southwick	22,500 00	15,000 00	22,500 00	Bituminous macadam	10,019
Springfield	700 00	700 00	700 00	Bituminous macadam	300
Tolland	4,000 00	2,000 00	4,000 00	Gravel	3,100
Tolland	1,000 00	500 00	1,000 00	Gravel	1,150
Wales	500 00	500 00	500 00	Repairs and oiling	1,700
Wales	3,000 00	1,500 00	3,000 00	Gravel	1,250
West Springfield	10,000 00	10,000 00	10,000 00	Bituminous macadam	3,318
Westfield	4,500 00	5,500 00	4,500 00	Gravel	5,000
Westfield	3,300 00	—	—	Reinforced cement concrete	300
Westfield	2,000 00	2,000 00	2,000 00	Gravel	3,000
Westfield	2,000 00	2,000 00	2,000 00	Gravel	3,000
Wilbraham	4,000 00	4,000 00	4,000 00	Bituminous macadam	1,900
<i>Hampshire County</i>					
Amherst	10,000 00	10,000 00	10,000 00	Bridge and approaches	—
Belchertown	800 00	—	500 00	Repairs and oiling	15,756
Belchertown	4,500 00	1,500 00	1,500 00	Bituminous macadam	3,500
Chesterfield	2,000 00	1,000 00	1,000 00	Gravel	1,200
Chesterfield	1,000 00	1,000 00	1,000 00	Gravel	900
Chesterfield	1,000 00	—	—	Gravel	350
Chesterfield	1,500 00	500 00	1,000 00	Gravel	988
Cummington	3,000 00	1,500 00	1,500 00	Gravel	1,475
Easthampton	9,600 00	9,600 00	4,300 00	Bituminous macadam	2,880
Enfield	2,000 00	1,000 00	1,000 00	Repairs and oiling	8,448
Enfield	3,200 00	—	500 00	Repairs and oiling	22,704
Goshen	1,000 00	500 00	500 00	Gravel	775
Goshen	1,000 00	500 00	500 00	Gravel	800
Granby	2,000 00	1,000 00	1,000 00	Bituminous macadam	1,000
Granby	4,000 00	2,000 00	2,000 00	Bituminous macadam	2,200
Greenwich	3,500 00	2,000 00	1,500 00	Repairs and oiling	26,400
Hatfield	2,000 00	2,000 00	2,000 00	Bituminous macadam	1,200
Huntington	6,000 00	500 00	1,500 00	Gravel	1,950
Huntington	1,000 00	500 00	500 00	Gravel	650
Middlefield	200 00	100 00	200 00	Gravel	750
Middlefield	800 00	300 00	500 00	Gravel	550
Middlefield	700 00	—	300 00	Gravel	700
Middlefield	2,000 00	500 00	800 00	Gravel	700
Middlefield	1,000 00	—	—	Grading	350
Northampton	2,000 00	6,000 00	2,000 00	Bituminous macadam	2,200
Northampton	5,000 00	5,000 00	3,000 00	Bituminous macadam	4,200
Pelham	1,000 00	500 00	500 00	Gravel	1,300
Pelham	6,800 00	1,200 00	4,000 00	Bituminous macadam	2,300
Plainfield	9,000 00	1,000 00	3,000 00	Gravel	2,100
South Hadley	20,000 00	10,000 00	10,000 00	Bituminous macadam	6,000
South Hadley	1,800 00	1,800 00	1,800 00	Bituminous macadam	1,050
South Hadley	1,000 00	1,000 00	1,000 00	Bituminous macadam	750
Ware	4,000 00	2,000 00	2,000 00	Repairs	11,101

COUNTIES AND TOWNS	State	CONTRIBUTIONS Town	County	Type of Road	Length con- tracted for (Feet)
Westhampton . . .	\$1,500 00	\$750 00	\$750 00	Gravel . . .	500
Worthington . . .	1,000 00	500 00	500 00	Gravel . . .	500
Worthington . . .	3,000 00	1,500 00	1,500 00	Gravel . . .	1,300
<i>Middlesex County</i>					
Acton . . .	3,000 00	3,000 00	3,000 00	Gravel . . .	4,300
Acton . . .	3,000 00	3,000 00	3,000 00	Gravel . . .	4,870
Acton . . .	1,500 00	1,500 00	1,500 00	Repairs and oiling . . .	65,472
Arlington . . .	10,000 00	10,000 00	10,000 00	Reinforced cement concrete . . .	2,800
Ashby . . .	1,000 00	500 00	1,000 00	Repairs and oiling . . .	17,952
Ashland . . .	2,000 00	2,000 00	2,000 00	Bituminous macadam . . .	950
Ashland . . .	1,000 00	4,500 00	1,000 00	Repairs and oiling . . .	15,312
Ashland . . .	1,000 00	1,000 00	1,000 00	Bridge . . .	—
Ayer . . .	11,700 00	11,700 00	11,700 00	Gravel . . .	2,000
Ayer . . .	800 00	800 00	800 00	Gravel . . .	15,250
Ayer . . .	1,000 00	1,000 00	1,000 00	Repairs and oiling . . .	6,500
Ayer . . .	1,500 00	6,500 00	1,500 00	Gravel . . .	250
Bedford . . .	2,000 00	2,000 00	2,000 00	Grading . . .	1,000
Bedford . . .	1,000 00	1,000 00	1,000 00	Bituminous macadam . . .	635
Bedford . . .	1,500 00	1,500 00	1,500 00	Bituminous macadam . . .	1,600
Bedford . . .	1,000 00	500 00	1,000 00	Gravel . . .	1,500
Billerica . . .	1,500 00	1,500 00	1,500 00	Repairs and oiling . . .	41,712
Billerica . . .	2,000 00	2,000 00	2,000 00	Repairs and oiling . . .	10,000
Billerica . . .	1,000 00	1,000 00	1,000 00	Gravel . . .	3,500
Billerica . . .	2,000 00	2,000 00	2,000 00	Repairs and oiling . . .	14,100
Billerica . . .	1,000 00	1,000 00	1,000 00	Gravel . . .	1,800
Billerica . . .	2,000 00	2,000 00	2,000 00	Repairs and oiling . . .	30,624
Boxborough . . .	1,000 00	500 00	1,000 00	Gravel . . .	930
Boxborough . . .	400 00	200 00	400 00	Gravel . . .	610
Boxborough . . .	850 00	850 00	850 00	Repairs and oiling . . .	30,624
Burlington . . .	7,400 00	3,700 00	7,400 00	Bituminous macadam . . .	3,700
Burlington . . .	2,000 00	2,000 00	1,000 00	Repairs and oiling . . .	44,880
Burlington . . .	1,333 00	1,333 00	1,333 00	Gravel . . .	2,000
Burlington . . .	666 00	666 00	666 00	Gravel . . .	1,000
Carlisle . . .	1,500 00	1,500 00	1,500 00	Repairs and oiling . . .	60,192
Carlisle . . .	1,600 00	800 00	1,600 00	Gravel . . .	2,000
Carlisle . . .	2,500 00	2,500 00	2,500 00	Gravel . . .	4,183
Chelmsford . . .	4,000 00	4,000 00	4,000 00	Bituminous macadam . . .	680
Chelmsford . . .	1,000 00	1,000 00	1,000 00	Gravel . . .	1,800
Chelmsford . . .	4,000 00	4,000 00	4,000 00	Bituminous macadam . . .	2,825
Chelmsford . . .	1,000 00	1,000 00	1,000 00	Gravel . . .	8,976
Concord . . .	8,000 00	8,000 00	8,000 00	Bituminous macadam . . .	4,861
Concord . . .	9,500 00	9,500 00	9,500 00	Bituminous macadam . . .	3,352
Concord . . .	500 00	600 00	500 00	Bituminous macadam . . .	1,000
Dracut . . .	3,000 00	3,000 00	3,000 00	Gravel . . .	2,800
Dunstable . . .	2,000 00	1,000 00	2,000 00	Gravel . . .	2,500
Dunstable . . .	1,750 00	1,750 00	1,750 00	Repairs and oiling . . .	43,824
Framingham . . .	6,000 00	12,000 00	6,000 00	Bituminous macadam . . .	4,580
Framingham . . .	4,000 00	8,000 00	4,000 00	Gravel . . .	10,850
Framingham . . .	7,500 00	15,000 00	7,500 00	Bituminous macadam . . .	7,500
Groton . . .	8,500 00	8,500 00	8,500 00	Bituminous macadam . . .	2,000
Groton . . .	3,000 00	3,000 00	3,000 00	Gravel . . .	3,500
Groton . . .	3,000 00	3,000 00	3,000 00	Repairs and oiling . . .	27,984
Holliston . . .	1,666 00	1,666 00	1,666 00	Gravel . . .	2,200
Holliston . . .	1,500 00	1,500 00	1,500 00	Repairs and oiling . . .	39,600
Hopkinton . . .	4,000 00	2,000 00	4,000 00	Bituminous macadam . . .	1,800
Hopkinton . . .	2,000 00	2,000 00	2,000 00	Repairs and oiling . . .	60,192
Hudson . . .	9,000 00	9,000 00	9,000 00	Reinforced cement concrete . . .	1,930
Hudson . . .	6,000 00	6,000 00	6,000 00	Bridge and approaches . . .	—
Lexington . . .	20,000 00	25,000 00	20,000 00	Bituminous macadam . . .	5,430
Lexington . . .	1,000 00	1,000 00	1,000 00	Repairs and oiling . . .	18,000
Lincoln . . .	1,000 00	1,000 00	1,000 00	Repairs and oiling . . .	36,960
Littleton . . .	1,800 00	1,800 00	1,800 00	Repairs and oiling . . .	42,768
Littleton . . .	1,000 00	1,000 00	1,000 00	Gravel . . .	1,400
Littleton . . .	2,000 00	1,000 00	2,000 00	Gravel . . .	1,100
Lowell . . .	1,500 00	1,500 00	1,500 00	Bituminous macadam . . .	650
Lowell . . .	7,000 00	7,000 00	—	Bituminous macadam . . .	2,000
Marlborough . . .	3,000 00	3,000 00	3,000 00	Gravel . . .	3,000
Marlborough . . .	10,500 00	10,500 00	10,500 00	Bituminous macadam . . .	3,655
Natick . . .	4,500 00	4,500 00	4,500 00	Gravel . . .	4,250
Natick . . .	12,000 00	12,000 00	12,000 00	Reinforced cement concrete . . .	1,950
North Reading . . .	2,500 00	2,500 00	2,500 00	Bituminous macadam . . .	2,000
North Reading . . .	2,500 00	2,500 00	2,500 00	Repairs and oiling . . .	49,104
Pepperell . . .	5,000 00	5,000 00	5,000 00	Repairs and oiling . . .	60,192
Pepperell . . .	3,000 00	3,000 00	3,000 00	Gravel . . .	3,500
Reading . . .	3,000 00	3,000 00	3,000 00	Bituminous macadam . . .	2,000
Sherborn . . .	2,000 00	2,000 00	2,000 00	Repairs and oiling . . .	66,528
Sherborn . . .	9,160 00	4,580 00	9,160 00	Bituminous macadam . . .	4,800
Sherborn . . .	840 00	420 00	840 00	Gravel . . .	1,500
Sherborn . . .	2,000 00	1,000 00	2,000 00	Gravel . . .	3,000
Stoneham . . .	26,000 00	26,000 00	26,000 00	Reinforced cement concrete . . .	4,935
Stow . . .	1,500 00	1,500 00	1,500 00	Repairs and oiling . . .	41,184
Sudbury . . .	4,000 00	4,000 00	4,000 00	Repairs and oiling . . .	79,728
Tewksbury . . .	7,500 00	1,500 00	7,500 00	Bituminous macadam . . .	3,224
Tewksbury . . .	1,000 00	1,000 00	1,000 00	Repairs and oiling . . .	12,144
Tewksbury . . .	3,500 00	3,500 00	3,500 00	Bituminous macadam . . .	2,600

COUNTIES AND TOWNS	State	CONTRIBUTIONS Town	County	Type of Road	Length contracted for (Feet)
Tewksbury . . .	\$2,000 00	\$2,000 00	\$2,000 00	Gravel . . .	4,000
Townsend . . .	512 12	3,487 88	2,000 00	Repairs and oiling . . .	30,888
Tyngsborough . . .	2,000 00	1,000 00	2,000 00	Gravel . . .	2,300
Tyngsborough . . .	2,000 00	1,000 00	2,000 00	Gravel . . .	2,500
Tyngsborough . . .	1,500 00	1,500 00	1,500 00	Repairs and oiling . . .	48,576
Waltham . . .	7,500 00	15,000 00	7,500 00	Bituminous macadam . . .	3,234
Watertown . . .	5,000 00	10,000 00	5,000 00	Bituminous macadam . . .	2,608
Wayland . . .	1,581 22	4,000 00	2,000 00	Repairs and oiling . . .	38,544
Westford . . .	5,000 00	5,000 00	5,000 00	Repairs and oiling . . .	84,480
Westford . . .	4,000 00	4,000 00	4,000 00	Gravel . . .	6,410
Westford . . .	3,000 00	3,000 00	3,000 00	Gravel . . .	2,500
Westford . . .	2,500 00	2,500 00	2,500 00	Gravel . . .	5,000
Westford . . .	1,000 00	1,000 00	1,000 00	Gravel . . .	2,000
Weston . . .	15,000 00	15,000 00	15,000 00	Bituminous macadam . . .	4,450
Wilmington . . .	4,500 00	2,750 00	4,500 00	Repairs and oiling . . .	19,536
				Bituminous macadam . . .	702
				Gravel . . .	3,000
Wilmington . . .	2,000 00	2,000 00	2,000 00	Gravel . . .	2,000
Woburn . . .	3,500 00	7,500 00	3,500 00	Bituminous macadam . . .	2,050
Woburn . . .	3,500 00	7,500 00	3,500 00	Bituminous macadam . . .	2,500
<i>Nantucket County</i>					
Nantucket . . .	10,000 00	10,000 00	—	Bituminous concrete . . .	3,970
<i>Norfolk County</i>					
Avon . . .	8,000 00	8,000 00	8,000 00	Bituminous macadam . . .	3,490
Bellingham . . .	2,650 00	1,325 00	1,325 00	Repairs and oiling . . .	23,700
Bellingham . . .	7,000 00	3,500 00	3,500 00	Bridge and approaches . . .	—
		(in conjunction with town of Mendon—See Worcester County)			
Canton . . .	9,000 00	9,000 00	9,000 00	Bituminous macadam . . .	4,700
Dover . . .	3,000 00	3,000 00	3,000 00	Bituminous macadam . . .	1,664
Dover . . .	15,000 00	15,000 00	15,000 00	Bridge and approaches . . .	—
Needham . . .		15,000 00			
Foxborough . . .	15,000 00	15,000 00	15,000 00	Bituminous macadam . . .	5,950
Foxborough . . .	2,000 00	2,000 00	—	Repairs . . .	—
Franklin . . .	4,000 00	4,000 00	4,000 00	Gravel . . .	3,900
Franklin . . .	8,000 00	8,000 00	8,000 00	Gravel . . .	8,100
Holbrook . . .	7,000 00	7,000 00	7,000 00	Bituminous macadam . . .	2,626
Medfield . . .	10,000 00	5,000 00	5,000 00	Bituminous macadam . . .	2,450
Medway . . .	5,000 00	5,000 00	5,000 00	Bituminous macadam . . .	1,300
Medway . . .	600 00	600 00	600 00	Culvert repairs . . .	—
Medway . . .	2,000 00	2,000 00	2,000 00	Bridge and approaches . . .	—
Medway . . .	211 40	211 40	—	Repairs . . .	—
Millis . . .	7,000 00	7,000 00	7,000 00	Bituminous macadam . . .	2,960
Millis . . .	4,250 00	4,250 00	4,250 00	Gravel . . .	3,850
Millis . . .	750 00	750 00	750 00	Gravel . . .	850
Norfolk . . .	2,700 00	900 00	1,800 00	Gravel . . .	1,952
Norfolk . . .	1,000 00	1,000 00	1,000 00	Repairs and oiling . . .	21,648
Norfolk . . .	3,300 00	1,100 00	2,200 00	Grading . . .	1,700
Sharon . . .	5,000 00	5,000 00	5,000 00	Gravel . . .	3,525
Sharon . . .	5,000 00	5,000 00	5,000 00	Bituminous macadam . . .	2,433
Stoughton . . .	6,000 00	6,000 00	6,000 00	Bituminous macadam . . .	1,066
Stoughton . . .	1,000 00	1,000 00	1,000 00	Bituminous macadam . . .	450
Westwood . . .	12,000 00	12,000 00	12,000 00	Grading . . .	5,455
Wrentham . . .	2,000 00	2,000 00	2,000 00	Bituminous macadam . . .	4,835
				Bituminous macadam . . .	2,125
<i>Plymouth County</i>					
Bridgewater . . .	3,000 00	2,000 00	2,000 00	Gravel . . .	3,200
Carver . . .	4,000 00	2,000 00	—	Bituminous concrete . . .	3,000
Halifax . . .	31,100 00	10,000 00	10,700 00	Bituminous concrete . . .	12,750
				Oiling . . .	7,850
Hanover . . .	2,000 00	—	2,000 00	Bridge and approach . . .	—
Hanson . . .	10,000 00	5,000 00	5,000 00	Bituminous macadam . . .	4,753
Hingham . . .	17,000 00	17,000 00	17,000 00	Bituminous macadam . . .	8,630
Lakeville . . .	1,500 00	2,000 00	—	Gravel . . .	2,914
Lakeville . . .	15,000 00	7,500 00	7,500 00	Bituminous macadam . . .	4,362
Marshfield . . .	20,000 00	10,000 00	10,000 00	Gravel . . .	17,955
Middleborough . . .	5,000 00	7,500 00	5,000 00	Gravel . . .	9,000
Middleborough . . .	5,000 00	—	—	Gravel . . .	3,000
Pembroke . . .	12,000 00	6,000 00	6,000 00	Bituminous macadam . . .	3,200
Plympton . . .	3,500 00	1,000 00	2,500 00	Gravel . . .	2,666
Rochester . . .	12,000 00	6,000 00	6,000 00	Gravel . . .	10,500
Rochester . . .	4,500 00	4,500 00	—	Gravel . . .	5,315
Wareham . . .	11,500 00	12,500 00	7,500 00	Bituminous concrete . . .	5,900
West Bridgewater . . .	3,000 00	1,500 00	1,500 00	Bituminous concrete . . .	1,242
West Bridgewater . . .	6,000 00	3,000 00	3,000 00	Bituminous macadam . . .	3,493
<i>Worcester County</i>					
Ashburnham . . .	1,200 00	750 00	1,050 00	Repairs and oiling . . .	18,000
Athol . . .	4,500 00	7,000 00	4,500 00	Rein. cement concrete and bituminous macadam . . .	1,600
Barre . . .	1,200 00	1,200 00	1,200 00	Gravel . . .	11,088
Berlin . . .	5,500 00	3,500 00	5,500 00	Gravel . . .	3,400
Berlin . . .	2,000 00	1,000 00	2,000 00	Repairs and oiling . . .	36,432
Blackstone . . .	2,000 00	2,000 00	2,000 00	Gravel . . .	1,500

COUNTIES AND TOWNS	State	CONTRIBUTIONS Town	County	Type of Road	Length con- tracted for (Feet)
Bolton . . .	\$5,000 00	\$1,000 00	\$5,000 00	Bituminous macadam	1,000
Boylston . . .	150 00	—	150 00	Bituminous macadam	340
Boylston . . .	1,000 00	500 00	1,000 00	Repairs and oiling .	37,658
Brookfield . . .	2,000 00	1,000 00	2,000 00	Gravel . . .	1,700
Brookfield . . .	4,000 00	2,000 00	4,000 00	Bituminous macadam	1,590
Charlton . . .	8,000 00	4,000 00	8,000 00	Bituminous macadam	3,300
Dana . . .	2,500 00	1,000 00	2,500 00	Repairs and oiling .	50,424
Dana . . .	2,500 00	1,000 00	2,500 00	Gravel . . .	1,750
Gardner . . .	5,000 00	10,000 00	5,000 00	Bituminous macadam	3,800
Gardner . . .	1,000 00	2,000 00	1,000 00	Drainage . . .	—
Hardwick . . .	3,000 00	3,000 00	3,000 00	{ Grading . . .	1,800
Harvard . . .	42,500 00	7,500 00	25,000 00	{ Bituminous macadam	1,200
Harvard . . .	1,000 00	500 00	1,000 00	Bituminous macadam	11,662
Holden . . .	7,000 00	6,000 00	8,000 00	Repairs and oiling .	17,150
Hubbardston . . .	4,000 00	2,000 00	4,000 00	Bituminous macadam	2,319
Hubbardston . . .	1,000 00	500 00	1,000 00	Gravel . . .	1,150
Leicester . . .	4,500 00	4,500 00	4,500 00	Repairs and oiling .	42,240
Leicester . . .	4,500 00	4,500 00	4,500 00	Gravel . . .	2,750
Lunenburg . . .	40,000 00	6,000 00	20,000 00	Gravel . . .	3,000
Mendon . . .	2,200 00	1,000 00	2,200 00	Bituminous macadam	4,095
Mendon . . .	2,500 00	1,000 00	2,500 00	Gravel . . .	1,850
Mendon . . .	1,000 00	(in conjunction with town of Bellingham—see Norfolk County)	1,000 00	Bridge and approaches	—
Millbury . . .	15,000 00	500 00	1,000 00	Repairs and oiling .	29,040
Millville . . .	3,000 00	18,000 00	12,000 00	Reinforced cement concrete	2,376
New Braintree . . .	500 00	3,000 00	3,000 00	Gravel . . .	1,900
New Braintree . . .	3,000 00	500 00	500 00	Repairs and oiling .	22,704
North Brookfield . . .	2,000 00	1,500 00	3,000 00	Gravel . . .	2,550
Oakham . . .	3,000 00	2,000 00	2,000 00	Gravel . . .	2,000
Oakham . . .	500 00	1,900 00	3,000 00	Gravel . . .	2,200
Oxford . . .	5,000 00	—	500 00	Gravel . . .	—
Paxton . . .	1,200 00	5,000 00	5,000 00	Bituminous macadam	2,200
Paxton . . .	2,000 00	600 00	1,200 00	Repairs and oiling .	15,840
Paxton . . .	2,000 00	1,000 00	2,000 00	{ Grading . . .	950
Paxton . . .	1,000 00	500 00	—	{ Gravel . . .	980
Petersham . . .	9,500 00	5,500 00	9,500 00	{ Culvert . . .	none
Phillipston . . .	10,500 00	2,500 00	10,500 00	{ Gravel . . .	4,862
Princeton . . .	4,000 00	2,000 00	4,000 00	Gravel . . .	4,812
Princeton . . .	1,200 00	400 00	1,200 00	Gravel . . .	2,100
Princeton . . .	400 00	200 00	400 00	Repairs and oiling .	22,704
Royalston . . .	9,250 00	4,000 00	9,250 00	Repairs and oiling .	4,300
Royalston . . .	500 00	500 00	500 00	Bridge and approaches	—
Rutland . . .	4,000 00	2,000 00	4,000 00	Gravel . . .	500
Shrewsbury . . .	8,000 00	8,000 00	8,000 00	Gravel . . .	24,575
Spencer . . .	5,800 00	5,000 00	5,800 00	Bituminous macadam	3,792
Sterling . . .	1,600 00	400 00	1,600 00	Gravel . . .	3,950
Sterling . . .	14,000 00	7,000 00	14,000 00	Repairs and oiling .	25,892
Sterling . . .	600 00	300 00	600 00	Gravel . . .	4,885
Sutton . . .	4,000 00	—	4,000 00	Repairs and oiling .	800
Templeton . . .	2,000 00	2,000 00	2,000 00	{ Concrete structures	—
Templeton . . .	1,000 00	1,000 00	1,000 00	{ Bituminous macadam	100
Templeton . . .	2,000 00	2,000 00	2,000 00	Bituminous macadam	1,399
Upton . . .	1,000 00	2,000 00	2,000 00	Repairs and oiling .	14,256
Warren . . .	3,000 00	1,000 00	1,000 00	Gravel . . .	12,672
West Boylston . . .	10,000 00	3,000 00	3,000 00	Bridge . . .	—
West Brookfield . . .	2,000 00	10,000 00	10,000 00	Gravel . . .	2,400
Westborough . . .	10,000 00	1,000 00	2,000 00	Gravel . . .	7,250
Westborough . . .	10,000 00	10,000 00	10,000 00	Gravel . . .	1,750
Westminster . . .	2,000 00	9,000 00	11,000 00	Bituminous macadam	5,650
Westminster . . .	3,000 00	800 00	2,000 00	Bituminous macadam	4,300
Westminster . . .	3,000 00	1,500 00	3,000 00	Repairs and oiling .	23,831
Westminster . . .	3,000 00	1,500 00	3,000 00	Gravel . . .	2,400
Winchendon . . .	20,000 00	20,000 00	20,000 00	Gravel . . .	2,500
				Gravel . . .	11,690

EXPENDITURES FOR CONSTRUCTION OF TOWN AND COUNTY WAYS

The expenditures during the year in various Counties were:—

Barnstable, \$19,984.36	Hampshire, \$149,945.18
Berkshire, \$254,651.80	Middlesex, \$445,000.44
Bristol, \$75,428.22	Nantucket, \$10,756.50
Dukes, \$69,927.48	Norfolk, \$162,440.53
Essex, \$352,772.60	Plymouth, \$181,123.74
Franklin, \$162,128.25	Worcester, \$365,862.56
Hampden, \$216,827.46	Total, \$2,466,849.12

Details of the foregoing expenditures follow:—

Barnstable County.—Dennis, \$12,962.50; Provincetown, \$7,021.86.

Berkshire County.—Adams, \$7,679.22; Alford, \$1,241.25; Becket, \$3,971.98;

Cheshire, \$17,048.29; Clarksburg, \$1,241.25; Egremont, \$4,282.24; Florida, \$4,964.90; Great Barrington, \$12,361.47; Hancock, \$32,600.59; Hinsdale, \$3,258.16; Lanesborough, \$4,964.75; Lenox, \$14,200.52; Monterey, \$6,826.82; Mount Washington, \$1,861.83; New Marlborough, \$8,688.65; North Adams, \$30,481.95; Otis, \$7,486.31; Peru, \$15,426.49; Richmond, \$3,102.93; Sandisfield, \$4,964.90; Savoy, \$18,187.06; Sheffield, \$2,482.50; Stockbridge, \$26,289.87; Tyringham, \$2,480.36; Washington, \$5,336.40; West Stockbridge, \$7,447.35; Williamstown, \$3,291.26; Windsor, \$2,482.50.

Bristol County. — Berkley, \$7,501.20; Dighton, \$18,093.78; Easton, \$3,990.10; Freetown, \$8,330.42; Norton, \$19,660.49; Rehoboth, \$7,148.85; Taunton, \$6,979.68; Westport, \$3,723.70.

Dukes County. — Chilmark, \$63,916.02; West Tisbury, \$6,011.46.

Essex County. — Amesbury, \$3,528.57; Andover, \$104,344.49; Beverly, \$10,057.29; Boxford, \$31,627.29; Danvers, \$5,610.26; Essex, \$12,871.11; Georgetown, \$19,075.13; Hamilton, \$12,125.85; Haverhill, \$15,349.82; Lawrence, \$3,723.70; Lynnfield, \$10,328.37; Marblehead, \$10,336.68; Merrimac, \$10,413.79; Methuen, \$9,929.85; Middleton, \$5,585.53; Newbury, \$6,687.54; North Andover, \$11,151.10; Rockport, \$21,649.59; Rowley, \$19,150.56; Salem, \$3,701.68; Salisbury, \$581.44; Swampscott, \$3,586.80; Topsfield, \$15,448.58; Wenham, \$2,984.64; West Newbury, \$2,922.94.

Franklin County. — Ashfield, \$15,713.14; Charlemont, \$6,195.32; Colrain, \$2,482.45; Conway, \$4,413.41; Deerfield, \$4,964.95; Erving, \$3,346.70; Gill, \$6,788.88; Greenfield, \$20,068.50; Hawley, \$3,475.47; Heath, \$2,482.45; Leverett, \$1,241.25; Leyden, \$2,482.45; Monroe, \$2,482.45; Montague, \$23,271.12; New Salem, \$6,206.15; Northfield, \$4,964.36; Orange, \$3,351.31; Rowe, \$2,482.45; Shelburne, \$2,482.43; Shutesbury, \$2,481.34; Sunderland, \$2,482.45; Warwick, \$10,940.05; Wendell, \$5,585.53; Whately, \$21,743.64.

Hampden County. — Agawam, \$22,849.91; Blandford, \$23,427.34; Chester, \$13,536.92; Chicopee, \$17,389.74; East Longmeadow, \$3,103.07; Granville, \$6,826.77; Hampden, \$7,261.20; Holland, \$5,636.00; Holyoke, \$15,448.92; Ludlow, \$9,336.01; Monson, \$3,199.24; Montgomery, \$3,103.07; Palmer, \$8,845.82; Russell, \$1,861.82; Southwick, \$24,404.76; Springfield, \$5,652.40; Tolland, \$6,206.15; Wales, \$3,362.54; Westfield, \$19,433.91; West Springfield, \$10,976.92; Wilbraham, \$4,964.95.

Hampshire County. — Amherst, \$9,528.47; Belchertown, \$6,577.53; Chesterfield, \$6,505.91; Cummington, \$4,618.25; Easthampton, \$11,077.99; Enfield, \$6,454.38; Goshen, \$3,831.61; Granby, \$7,447.45; Greenwich, \$4,344.32; Hatfield, \$2,481.95; Huntington, \$8,688.01; Middlefield, \$6,230.94; Northampton, \$8,681.57; Pelham, \$8,322.18; Plainfield, \$13,127.78; South Hadley, \$20,214.56; Ware, \$4,964.95; Westhampton, \$1,861.83; Williamsburg, \$518.94; Worthington, \$14,466.56.

Middlesex County. — Acton, \$10,298.86; Arlington, \$9,156.46; Ashby, \$1,241.20; Ashland, \$3,227.19; Ayer, \$12,741.00; Bedford, \$4,344.32; Billerica, \$8,068.02; Boxborough, \$2,792.76; Burlington, \$14,148.82; Carlisle, \$5,940.02; Chelmsford, \$11,144.08; Concord, \$21,250.09; Dracut, \$3,723.70; Dunstable, \$4,654.64; Framingham, \$21,410.78; Groton, \$19,669.95; Holliston, \$4,930.15; Hopkinton, \$7,447.40; Hudson, \$15,027.28; Lexington, \$27,416.50; Lincoln, \$1,241.20; Littleton, \$5,957.92; Lowell, \$6,206.15; Marlborough, \$15,524.05; Natick, \$16,113.46; Newton, \$750.67; North Reading, \$6,206.15; Pepperell, \$13,524.65; Reading, \$3,669.91; Sherborn, \$17,802.85; Stoneham, \$29,391.77; Stow, \$1,861.83; Sudbury, \$4,964.95; Tewksbury, \$12,888.73; Townsend, \$6,157.91; Tyngsborough, \$4,344.32; Wakefield, \$990.22; Waltham, \$6,621.29; Watertown, \$13,930.06; Wayland, \$4,150.56; Westford, \$19,100.90; Weston, \$22,773.14; Wilmington, \$10,550.48; Winchester, \$3,864.99; Woburn, \$7,779.06.

Nantucket County. — Nantucket, \$10,756.50.

Norfolk County. — Avon, \$6,710.54; Bellingham, \$9,440.72; Canton, \$10,546.28; Dover, \$5,404.11; Foxborough, \$13,146.87; Franklin, \$15,714.67; Holbrook, \$11,449.18; Medfield, \$10,705.84; Medway, \$14,023.71; Millis, \$13,281.55; Needham, \$7,403.93; Norfolk, \$9,596.50; Sharon, \$11,885.35; Stoughton, \$6,463.41; Wellesley, \$750.67; Westwood, \$13,584.87; Wrentham, \$2,332.33.

Plymouth County. — Bridgewater, \$3,723.70; Carver, \$4,964.95; Halifax, \$38,-

602.31; Hanover, \$1,430.07; Hanson, \$9,946.55; Hingham, \$30,449.62; Lakeville, \$18,098.80; Marshfield, \$15,243.12; Middleborough, \$7,912.99; Pembroke, \$11,069.42; Plympton, \$4,344.27; Rochester, \$14,172.88; Wareham, \$10,145.16; West Bridgewater, \$11,019.90.

Worcester County.—Ashburnham, \$1,489.48; Athol, \$6,793.19; Barre, \$1,489.48; Berlin, \$11,735.49; Blackstone, \$824.70; Bolton, \$6,615.81; Boylston, \$9,698.01; Brookfield, \$5,192.30; Charlton, \$7,401.79; Clinton, \$2,525.06; Dana, \$6,206.15; Gardner, \$6,844.53; Hardwick, \$3,614.40; Harvard, \$33,491.50; Holden, \$4,075.16; Hubbardston, \$1,293.62; Lancaster, \$4,662.03; Leicester, \$5,927.67; Lunenburg, \$49,082.93; Mendon, \$5,794.31; Milford, \$2,114.40; Millbury, \$12,136.66; Millville, \$3,246.60; New Braintree, \$3,599.38; North Brookfield, \$1,725.77; Oakham, \$4,287.57; Oxford, \$11,128.65; Paxton, \$3,210.90; Petersham, \$5,664.81; Phillipston, \$14,487.16; Princeton, \$5,992.97; Royalston, \$9,560.28; Rutland, \$4,964.95; Shrewsbury, \$9,631.85; Spencer, \$5,695.31; Sterling, \$12,575.73; Sutton, \$4,701.62; Templeton, \$5,506.22; Upton, \$162.23; Warren, \$4,367.61; West Boylston, \$9,877.03; West Brookfield, \$2,045.96; Westborough, \$26,589.18; Westminster, \$9,577.36; Winchendon, \$18,254.75.

REPAIR AND IMPROVEMENT OF PUBLIC WAYS, EXCLUSIVE OF STATE HIGHWAYS, IN CERTAIN TOWNS

(Sections 26 to 29 and 31 of chapter 81, General Laws, as amended with reference to section 26 by section 1 of chapter 120, Acts of 1922, by chapter 315, Acts of 1926, and by chapter 171, Acts of 1930.)

During the year the Department contracted for work to be done in the towns named in the following table, which also shows the road mileage in the towns and the allotments or contributions by the State and towns:—

Counties and Towns	Miles of Road	Allotments	
		State	Town
<i>Barnstable County:</i>			
Brewster	40	\$4,000 00	\$4,000 00
Dennis	80	8,000 00	8,000 00
Eastham	41	4,100 00	3,075 00
Mashpee	27	2,700 00	2,025 00
Sandwich	67	6,700 00	5,025 00
Truro	28	2,800 00	2,100 00
Wellfleet	35	3,500 00	3,500 00
<i>Berkshire County:</i>			
Alford	20	2,000 00	800 00
Becket	58	5,800 00	2,320 00
Cheshire	42	4,200 00	4,200 00
Egremont	32	3,200 00	2,400 00
Florida	43	4,300 00	3,225 00
Hancock	30	3,000 00	1,500 00
Hinsdale	35	3,500 00	2,625 00
Lanesborough	39	3,900 00	2,925 00
Monterey	53	5,300 00	2,120 00
Mount Washington	20	2,000 00	500 00
New Ashford	9	900 00	360 00
New Marlborough	85	8,500 00	3,400 00
Otis	48	4,800 00	1,200 00
Peru	37	3,700 00	555 00
Richmond	34	3,400 00	1,700 00
Sandisfield	79	7,900 00	1,185 00
Savoy	56	5,600 00	840 00
Sheffield	77	7,700 00	3,850 00
Tyringham	25	2,500 00	1,250 00

Counties and Towns	Miles of Road	Allotments	
		State	Town
Washington	51	\$5,100 00	\$765 00
West Stockbridge	36	3,600 00	2,700 00
Windsor	66	6,600 00	990 00
<i>Bristol County:</i>			
Berkley	42	4,200 00	2,100 00
Freetown	47	4,700 00	4,700 00
Norton	55	5,500 00	6,875 00
Raynham	45	4,500 00	4,500 00
Rehoboth	109	10,900 00	5,450 00
Swansea	54	5,400 00	8,100 00
<i>Dukes County:</i>			
Chilmark	14	1,400 00	1,400 00
West Tisbury	13	1,300 00	1,625 00
<i>Essex County:</i>			
Boxford	52	5,200 00	2,600 00
Essex	21	2,100 00	3,150 00
Georgetown	34	3,400 00	4,250 00
Groveland	29	2,900 00	4,350 00
Merrimac	31	3,100 00	4,650 00
Middleton	30	3,000 00	3,750 00
Newbury	36	3,600 00	5,400 00
Rowley	31	3,100 00	3,875 00
Topsfield	38	3,800 00	5,700 00
West Newbury	37	3,700 00	2,775 00
<i>Franklin County:</i>			
Ashfield	83	8,300 00	3,320 00
Bernardston	40	4,000 00	3,000 00
Buckland	45	4,500 00	6,750 00
Charlemont	49	4,900 00	3,675 00
Colrain	84	8,400 00	4,200 00
Conway	75	7,500 00	1,875 00
Gill	36	3,600 00	2,700 00
Hawley	49	4,900 00	735 00
Heath	53	5,300 00	795 00
Leverett	38	3,800 00	1,520 00
Leyden	40	4,000 00	600 00
Monroe	18	1,800 00	2,700 00
Northfield	66	6,600 00	4,950 00
New Salem	64	6,400 00	1,600 00
Rowe	41	4,100 00	2,050 00
Shelburne	48	4,800 00	6,000 00
Shutesbury	40	4,000 00	1,000 00
Sunderland	34	3,400 00	3,400 00
Warwick	55	5,500 00	1,375 00
Wendell	48	4,800 00	2,400 00
Whately	40	4,000 00	3,000 00
<i>Hampden County:</i>			
Blandford	83	8,300 00	2,075 00
Brimfield	59	5,900 00	2,950 00
Chester	66	6,600 00	4,950 00
Granville	73	7,300 00	1,825 00
Hampden	34	3,400 00	1,700 00
Holland	30	3,000 00	450 00
Montgomery	27	2,700 00	675 00
Southwick	50	5,000 00	3,750 00

Counties and Towns	Miles of Road	Allotments	
		State	Town
Tolland	41	\$4,100 00	\$615 00
Wales	25	2,500 00	1,250 00
Wilbraham	43	4,300 00	6,450 00
<i>Hampshire County:</i>			
Belchertown	115	11,500 00	4,600 00
Chesterfield	59	5,900 00	885 00
Cummington	49	4,900 00	1,225 00
Enfield	37	3,700 00	1,480 00
Goshen	28	2,800 00	1,120 00
Hadley	58	5,800 00	7,250 00
Granby	48	4,800 00	2,400 00
Greenwich	39	3,900 00	975 00
Huntington	40	4,000 00	4,000 00
Hatfield	46	4,600 00	6,900 00
Middlefield	38	3,800 00	570 00
Pelham	40	4,000 00	1,600 00
Plainfield	49	4,900 00	735 00
Prescott	39	3,900 00	585 00
Southampton	56	5,600 00	2,240 00
Westhampton	50	5,000 00	750 00
Williamsburg	43	4,300 00	4,300 00
Worthington	73	7,300 00	1,095 00
<i>Middlesex County</i>			
Acton	58	5,800 00	7,250 00
Ashby	57	5,700 00	2,850 00
Ashland	38	3,800 00	5,700 00
Bedford	35	3,500 00	5,250 00
Boxborough	23	2,300 00	920 00
Burlington	32	3,200 00	4,800 00
Carlisle	43	4,300 00	1,720 00
Dunstable	36	3,600 00	900 00
Holliston	50	5,000 00	7,500 00
Hopkinton	66	6,600 00	6,600 00
Lincoln	40	4,000 00	6,000 00
Littleton	42	4,200 00	5,250 00
North Reading	29	2,900 00	4,350 00
Pepperell	68	6,800 00	8,500 00
Sherborn	43	4,300 00	4,300 00
Shirley	46	4,600 00	5,750 00
Stow	45	4,500 00	3,375 00
Sudbury	61	6,100 00	6,100 00
Tewksbury	56	5,600 00	7,000 00
Townsend	70	7,000 00	5,250 00
Tyngsborough	41	4,100 00	3,075 00
<i>Norfolk County</i>			
Bellingham	42	4,200 00	6,300 00
Medfield	40	4,000 00	6,000 00
Medway	44	4,400 00	6,600 00
Millis	39	3,900 00	5,850 00
Norfolk	40	4,000 00	4,000 00
Plainville	34	3,400 00	4,250 00
Wrentham	43	4,300 00	6,450 00
<i>Plymouth County</i>			
Carver	67	6,700 00	6,700 00
Halifax	33	3,300 00	3,300 00

Counties and Towns	Miles of Road	Allotments	
		State	Town
Hanson	36	\$3,600 00	\$5,400 00
Lakeville	45	4,500 00	3,375 00
Norwell	47	4,700 00	4,700 00
Pembroke	47	4,700 00	5,875 00
Plympton	30	3,000 00	1,500 00
Rochester	49	4,900 00	3,675 00
West Bridgewater	39	3,900 00	5,850 00
<i>Worcester County</i>			
Ashburnham	75	7,500 00	5,625 00
Berlin	39	3,900 00	2,925 00
Bolton	53	5,300 00	2,650 00
Boylston	41	4,100 00	2,050 00
Brookfield	36	3,600 00	3,600 00
Charlton	112	11,200 00	4,480 00
Dana	43	4,300 00	1,720 00
Douglas	70	7,000 00	5,250 00
East Brookfield	19	1,900 00	2,375 00
Hardwick	96	9,600 00	7,200 00
Harvard	57	5,700 00	5,700 00
Holden	77	7,700 00	9,625 00
Hubbardston	75	7,500 00	1,875 00
Lancaster	57	5,700 00	7,125 00
Lunenburg	66	6,600 00	4,950 00
Mendon	36	3,600 00	2,700 00
New Braintree	49	4,900 00	1,225 00
North Brookfield	69	6,900 00	6,900 00
Northborough	47	4,700 00	4,700 00
Oakham	45	4,500 00	1,125 00
Oxford	65	6,500 00	8,125 00
Paxton	29	2,900 00	2,175 00
Petersham	71	7,100 00	5,325 00
Phillipston	41	4,100 00	1,025 00
Princeton	72	7,200 00	2,880 00
Royalston	67	6,700 00	2,680 00
Rutland	68	6,800 00	3,400 00
Southborough	48	4,800 00	7,200 00
Sterling	72	7,200 00	5,400 00
Sturbridge	68	6,800 00	3,400 00
Sutton	84	8,400 00	4,200 00
Templeton	63	6,300 00	7,875 00
Upton	60	6,000 00	4,500 00
West Boylston	35	3,500 00	4,375 00
West Brookfield	53	5,300 00	3,975 00
Westminster	77	7,700 00	3,850 00

EXPENDITURES FOR REPAIR AND IMPROVEMENT OF PUBLIC WAYS

The expenditures during the year in various counties were: —

Barnstable, \$36,139.36	Hampshire, \$97,677.54
Berkshire, \$91,925.61	Middlesex, \$111,187.56
Bristol, \$38,427.12	Norfolk, \$29,716.20
Dukes, \$3,139.22	Plymouth, \$41,959.94
Essex, \$37,105.40	Worcester, \$235,150.18
Franklin, \$115,887.86	
Hampden, \$52,642.72	Total, \$890,958.71

Details of the foregoing expenditures follow:—

Barnstable County.—Brewster, \$4,639.64; Dennis, \$9,016.13; Eastham, \$4,799.63; Mashpee, \$2,916.96; Sandwich, \$7,187.62; Truro, \$3,212.66; Wellfleet, \$4,366.72.

Berkshire County.—Alford, \$2,183.36; Becket, \$5,224.56; Cheshire, \$4,530.47; Egremont, \$3,383.50; Florida, \$3,493.20; Hancock, \$4,287.97; Hinsdale, \$3,805.09; Lanesborough, \$3,571.39; Monterey, \$4,990.64; Mount Washington, \$1,310.02; New Ashford, \$1,005.88; New Marlborough, \$8,499.49; Otis, \$4,541.39; Peru, \$2,805.23; Richmond, \$3,129.63; Sandisfield, \$7,973.41; Savoy, \$5,270.03; Sheffield, \$3,347.98; Tyringham, \$2,751.03; Washington, \$5,030.84; West Stockbridge, \$3,680.33; Windsor, \$7,110.17.

Bristol County.—Berkley, \$4,585.06; Freetown, \$5,130.89; Norton, \$6,004.24; Raynham, \$4,912.55; Rehoboth, \$11,899.31; Swansea, \$5,895.07.

Dukes County.—Chilmark, \$1,685.68; West Tisbury, \$1,453.54.

Essex County.—Boxford, \$5,676.73; Essex, \$2,324.93; Georgetown, \$3,711.71; Groveland, \$3,165.88; Merrimac, \$3,384.21; Middleton, \$3,275.03; Newbury, \$3,995.11; Rowley, \$3,384.21; Topsfield, \$4,148.38; West Newbury, \$4,039.21.

Franklin County.—Ashfield, \$8,542.39; Bernardston, \$4,339.43; Buckland, \$4,339.43; Charlemont, \$5,485.69; Colrain, \$9,251.66; Conway, \$9,523.80; Gill, \$4,783.61; Hawley, \$5,403.82; Heath, \$6,386.32; Leverett, \$4,148.38; Leyden, \$4,366.72; Monroe, \$1,965.02; New Salem, \$6,631.95; Northfield, \$7,641.76; Rowe, \$4,557.76; Shelburne, \$4,748.80; Shutesbury, \$4,366.72; Sunderland, \$4,121.09; Warwick, \$6,004.24; Wendell, \$4,912.55; Whately, \$4,366.72.

Hampden County.—Blandford, \$7,510.75; Brimfield, \$6,437.64; Chester, \$6,300.59; Granville, \$7,969.26; Hampden, \$3,411.51; Holland, \$2,692.94; Montgomery, \$2,685.54; Southwick, \$5,431.10; Tolland, \$2,847.65; Wales, \$2,661.52; Wilbraham, \$4,694.22.

Hampshire County.—Belchertown, \$12,772.65; Chesterfield, \$6,522.79; Cummington, \$5,349.23; Enfield, \$4,175.67; Goshen, \$3,056.70; Granby, \$5,240.06; Greenwich, \$4,257.55; Hadley, \$6,413.62; Hatfield, \$5,103.61; Huntington, \$4,093.80; Middlefield, \$4,053.46; Palham, \$4,366.72; Plainfield, \$5,321.94; Prescott, \$4,421.30; Southampton, \$6,113.41; Westhampton, \$5,049.01; Williamsburg, \$4,721.51; Worthington, \$6,644.51.

Middlesex County.—Acton, \$6,331.74; Ashby, \$6,222.58; Ashland, \$4,148.38; Bedford, \$3,820.88; Boxborough, \$3,438.79; Burlington, \$3,493.37; Carlisle, \$4,694.22; Dunstable, \$3,930.05; Holliston, \$5,458.40; Hopkinton, \$7,205.08; Lincoln, \$4,366.72; Littleton, \$4,585.06; North Reading, \$3,165.87; Pepperell, \$8,951.77; Sherborn, \$4,694.22; Shirley, \$5,021.73; Stow, \$4,912.55; Sudbury, \$7,860.10; Tewksbury, \$6,113.40; Townsend, \$7,641.76; Tyngsborough, \$5,130.89.

Norfolk County.—Bellingham, \$4,585.06; Medfield, \$4,366.72; Medway, \$3,734.23; Millis, \$4,257.55; Norfolk, \$4,366.72; Plainville, \$3,711.70; Wrentham, \$4,694.22.

Plymouth County.—Carver, \$7,397.12; Halifax, \$3,147.38; Hanson, \$3,676.87; Lakeville, \$4,995.93; Norwell, \$5,197.07; Pembroke, \$5,147.54; Plympton, \$3,275.02; Rochester, \$4,953.44; West Bridgewater, \$4,169.57.

Worcester County.—Ashburnham, \$7,861.30; Berlin, \$5,390.39; Bolton, \$5,785.91; Boylston, \$4,475.88; Brookfield, \$4,288.94; Charlton, \$12,606.56; Dana, \$4,694.22; Douglas, \$7,641.76; East Brookfield, \$2,125.49; Hardwick, \$10,471.99; Harvard, \$6,222.58; Holden, \$8,052.08; Hubbardston, \$7,678.71; Lancaster, \$6,222.58; Lunenburg, \$7,205.08; Mendon, \$4,372.39; New Braintree, \$5,349.23; North Brookfield, \$7,501.29; Northborough, \$5,130.89; Oakham, \$4,598.79; Oxford, \$7,095.92; Paxton, \$3,113.26; Petersham, \$7,750.92; Phillipston, \$4,171.00; Princeton, \$7,860.10; Royalston, \$7,314.25; Rutland, \$8,010.55; Southborough, \$5,240.06; Sterling, \$7,860.09; Sturbridge, \$7,499.63; Sutton, \$9,170.11; Templeton, \$7,171.34; Upton, \$6,528.56; West Boylston, \$3,820.88; West Brookfield, \$6,461.52; Westminster, \$8,405.93.

CONTRACTS FOR THE CONSTRUCTION AND RECONSTRUCTION OF STATE HIGHWAYS
IN ANTICIPATION OF APPROPRIATIONS

Chapter 5, Acts of 1930, amending section 27, chapter 29, General Laws, provided as follows: —

"No public officer or board shall incur a new or unusual expense, make a permanent contract, increase a salary or employ a new clerk, assistant or other subordinate unless a sufficient appropriation to cover the expense thereof has been made by the general court, except that prior to the effective date of the general appropriation act the department of public works, in anticipation of appropriations therefor, may, in any fiscal year, with the approval of the governor and council, make contracts for the construction and reconstruction of state highways binding the commonwealth to an amount not in excess of twenty-five per cent of the amount appropriated during the preceding fiscal year for the same purposes, such contracts to provide for the completion of the work thereunder within the fiscal year in which they are made."

In November, 1930, preparations were made for advertising contracts under the provisions of section 27, chapter 29, General Laws, as amended by chapter 387, Acts of 1923, and by chapter 5, Acts of 1930, for work to be done in various localities, preliminary to the making of contracts involving the expenditure by the Commonwealth of not exceeding \$1,575,000 for construction, and \$1,412,500 for reconstruction of State highways, these amounts being twenty-five per cent of the appropriations of \$6,300,000 and \$5,650,000, respectively, for the fiscal year ending November 30, 1930. The making of these contracts as aforesaid was approved by the Governor and Council Nov. 19, 1930.

HIGHWAYS IMPROVEMENTS AUTHORIZED BY SPECIAL ACT

Repairing Highway Bridges Over Location of Southern New England Railroad
Chapter 308, Acts of 1930, provides, in part, as follows: —

"Section 2. Section 1 of this act shall not take effect unless its provisions are accepted by vote of the board of directors of said corporation, and an attested copy of such vote is filed with the state secretary, within fourteen days after the passage of this act, nor unless within said fourteen days there shall be paid into the treasury of the commonwealth by said corporation, or on its behalf, the sum of twenty-five thousand dollars for expenditure by the department of public works in or on account of the repair and maintenance of bridges which carry public highways over the railroad location of said corporation within this commonwealth, such payment to be accompanied by delivery to the State Treasurer of a bond executed as surety by a surety company authorized to do business in the Commonwealth and securing the payment, upon demand of said department, of an additional sum for said purposes up to and but not exceeding twenty-five thousand dollars. The payment of said first-named sum of twenty-five thousand dollars and the delivery of said bond shall be evidenced by a certificate of the state treasurer, which shall be filed with the state secretary. Said department is hereby authorized and directed to expend in the repair and maintenance of such bridges, without appropriation by the general court, so much of any sums paid to it for such purposes under authority hereof as may be necessary therefor.

Section 3. Any liability of the Southern New England Railroad Corporation under general or special laws for the repair and maintenance of any bridges which carry public highways over the location of its railroad within the commonwealth shall continue unimpaired notwithstanding the provisions of section 2 or any action thereunder."

On Aug. 12, 1930, in accordance with the provisions of said chapter 308, Acts of 1930, a contract was made with Maurice M. Devine for repairing about 31 highway bridges over the Southern New England Railroad in the towns of Brimfield, Dudley, Uxbridge, Sturbridge, Webster, Millville, Southbridge, Douglas and Blackstone. The proposal amounted to \$20,220.00. Work completed Nov. 19, 1930. Expenditure during 1930, \$23,071.70.

PERMITS TO COMMON CARRIERS OF PASSENGERS BY MOTOR VEHICLES

In accordance with sections 48A and 48B, chapter 280, Acts of 1925, which amends chapter 159, General Laws, 116 permits were granted during the year.

THE REGULATION OF ADVERTISING SIGNS AND DEVICES WITHIN THE PUBLIC VIEW (Sections 29-33, chapter 93, General Laws, as amended)

In accordance with the provisions of sections 29 to 33 inclusive, chapter 93, General Laws, as amended by chapters 85, 237, 334 and 490, Acts of 1924, providing for the control of billboards and other advertising devices on public ways or on private property within the public view of any highway, public park or reservation, the Department adopted on Jan. 24, 1924, certain new rules and regulations, superseding all former issues; and these have continued in force during the present year.

Applications, Licenses and Permits.—Licenses were granted to 34 individuals and others to engage in the business of advertising in the Commonwealth by the use of outdoor signs.

Of 970 applications received for permits for the erection of advertising signs, 604 permits have been granted; and 151 permits were granted on applications filed previous to 1930. 189 applications for the erection of new signs were not approved because the locations were in violation of the rules and regulations adopted Jan. 24, 1924; and 42 applications for permits were cancelled.

Of 3,512 renewal applications sent to those whose permits were to expire June 30, 1930, 3,192 were returned to the Department requesting renewal; and 264 requested that permits be cancelled. The number of renewal applications approved, to be in force until June 30, 1931, was 3,576. The total number of permits in force November 30, 1930, was 3,976.

Receipts and Expenditures.—The total receipts for the year ending Nov. 30, 1930, were \$18,811.34, and the expenditures were \$14,605.31.

Removal of Signs.—A newly established "Sign Patrol" consisting of some small trucks completely equipped for the work, have removed 32,000 signs during the year in addition to 10,000 removed by other agents of the Department, under authority of section 30-A, chapter 93, General Laws, from within the highways and from private property.

Injunction.—On June 19, 1925, a temporary injunction was granted the General Outdoor Advertising Company, Inc., and others, as complainants enjoining and restraining the Commissioners constituting the Department of Public Works, for the Commonwealth, until the further order of the Court, from proceeding in any way against them for any alleged failure to comply with the rules and regulations for the control and restriction of the billboards, signs and other devices promulgated under date of January 24, 1924. This injunction is still in force and will be until the case is settled in Court.

Hearings.—Hearings were given to officials of Belmont, Brookline, Easton, Framingham, Holyoke, Lexington, Saugus, Stoneham, Watertown, Winchester, Winthrop; to two licensed advertisers; to one property owner and to two sets of petitioners representing abutters and interested parties.

CONTRACT PRICES DEC. 1, 1929, TO NOV. 30, 1930

TOWN OR CITY	CONTRACTOR	EXCAVATION				Plain Conc. Masonry (cu. yd.)	BIT. SURFACING	
		Earth (cu. yd.)	Borrow (cu. yd.)	Ledge (cu. yd.)	Trench (cu. yd.)		Asphalt (gal.)	Tar (gal.)
Abington . . .	Powers Bros.	\$0 60	-	\$2 00	\$1 00	\$15 00	\$0 10	-
Acton	J. J. Watkins	0 44	\$0 45	2 50	0 95	18 00	-	-
Adams	D. S. McGrath	0 75	0 85	0 75	1 50	17 60	-	-
Agawam	Lane Const. Corp.	0 50	0 50	2 00	1 25	22 00	0 095	-
Amherst-Pelham	Kelleher Corp.	0 40	0 50	3 00	1 10	20 00	0 095	-
Andover-North Andover	Greenough Const. Co.	0 65	0 65	0 65	1 00	20 00	0 08	-
Andover	P. J. Holland	0 40	-	3 50	1 00	-	0 10	-
Arlington	State Const. Co.	0 40	-	5 00	-	-	0 07	-
Ashfield-Conway	Kelleher Corp.	0 40	0 40	0 40	1 20	18 00	0 095	-
Athol-Orange	G. Rosse & Son	0 30	0 35	1 90	0 75	18 00	0 10	-
Athol	R. E. Bull	0 60	-	3 00	1 50	-	0 11	-
Attleborough	P. J. Holland	0 40	0 45	2 00	0 90	18 00	0 12	-
Attleborough-North Attleborough	J. J. McHale	0 55	-	2 00	1 25	18 00	0 10	-
Avon	J. A. Silva	0 40	-	3 50	1 00	-	0 09	-
Avon-Brockton	Powers Bros.	0 40	-	2 00	0 90	16 00	0 085	-
Ayer	Antonio Pallotto	0 45	-	2 25	0 50	-	-	-
Barre	Frank & Frank Const. Co.	0 55	0 55	4 00	1 00	18 00	0 10	-
Becket-Lee	Lane Const. Corp.	0 50	-	2 25	1 75	22 00	0 095	-
Bellingham-Mendon	G. Bonazzoli	0 40	-	3 00	1 00	18 00	-	-
Berkley	Providence Rd. Con. Co.	0 35	0 40	1 00	1 00	18 00	-	-
Beverly	Welch & Moynihan	0 70	-	0 70	1 00	25 00	0 09	-
Billerica	A. Pallotto	0 55	0 55	3 00	0 75	15 00	0 09	-
Blandford	Warner Bros. & Goodwin	0 55	0 50	3 00	1 00	20 00	-	\$0 14
Bourne-Sandwich	S. W. Lawrence	0 50	0 50	2 50	1 00	20 00	-	-
Boxford-Topsfield	J. E. Watkins	0 40	-	2 25	0 75	20 00	0 09	-
Brewster-Orleans	Lane Const. Corp.	0 60	0 60	0 60	1 00	25 00	-	-
Bridgewater-East Bridgewater	Arute Bros., Inc.	0 55	0 55	3 00	1 00	18 00	-	-
Bridgewater-Middleborough	Powers Bros.	0 55	0 60	2 00	1 00	18 00	0 095	-
Buckland	T. J. Harvey	0 60	0 40	2 50	1 15	20 00	0 09	-
Burlington	T. J. McCue	0 50	0 60	3 00	1 00	18 00	0 09	-
Canton	Reynolds Bros.	0 60	0 60	6 00	1 50	30 00	0 10	-
Canton-Stoughton	Perini & Ampolini	0 55	-	2 00	0 80	17 00	0 09	-
Carlisle	Revere Exc. Co.	0 40	0 40	1 50	1 00	18 00	-	-
Charlemont	Kelleher Corp.	0 50	0 36	3 00	1 50	22 00	0 11	-
Charlton	R. H. Newell Co.	0 45	-	2 00	1 00	20 00	0 10	-
Chicopee-Springfield	Waterbury Rd. Const. Co.	0 45	-	2 00	1 10	18 00	0 09	-
Chilmark	M. F. Roach	0 60	0 60	2 00	1 25	20 00	-	-
Clinton	Guaranty Const. Co.	0 60	-	-	-	40 00	-	-
Concord	Watertown Exc. Co.	0 40	0 50	2 25	1 00	14 00	0 09	-
Dalton	D. S. McGrath, Inc.	0 90	0 75	2 00	1 20	18 50	0 105	-
Danvers	E. W. Burr, Inc.	0 50	-	2 50	1 00	15 00	0 09	-
Dedham	B. Perini & Sons, Inc.	0 40	0 30	2 00	1 00	18 00	0 08	-
Dennis	Lane Const. Co.	0 60	0 60	3 00	1 00	25 00	-	-
Dighton	E. J. Jones	0 50	0 50	2 00	1 00	20 00	0 09	-
Dover-Needham	Lee Const. Co.	0 60	0 45	3 00	1 00	15 00	0 08	-
Dover-Westwood	University Const. Co.	0 50	-	2 25	1 00	20 00	0 095	-
Dudley-Southbridge	Waterbury Rd. Const. Co.	0 45	0 45	3 00	1 50	19 00	0 09	-
Easthampton	A. G. Bianchi & Co.	0 90	-	2 25	1 50	22 00	0 11	-
Erving	Kelleher Corp.	0 55	-	2 25	1 25	20 00	0 10	-
Foxborough	Perini & Ampolini	0 40	0 50	2 00	1 25	25 00	0 085	-
Framingham	Middlesex Const. Co.	0 35	-	1 00	1 00	-	0 085	-
Framingham	Perini & Ampolini	0 40	-	3 00	1 00	16 00	0 09	-
Framingham	Klauser Bros., Inc.	0 50	-	2 50	1 00	15 00	0 08	-
Franklin	Hagan-Thibodeau	0 40	-	0 40	1 20	20 00	-	0 12
Freetown	G. Bonazzoli & Sons	0 50	0 50	4 00	1 00	-	-	0 10
Gardner	G. Bonazzoli & Sons	0 40	0 40	4 00	2 00	20 00	0 09	-
Gardner-Templeton	Fitchburg Conc. Const. Co.	0 60	-	3 00	1 00	17 00	0 10	-
Georgetown	R. G. Watkins & Son	0 35	0 45	2 50	0 90	18 00	0 09	-
Great Barrington	A. G. Bianchi	0 85	0 90	3 00	1 50	25 00	-	0 15
Greenfield	G. Bonazzoli & Sons	2 00	-	2 00	1 20	18 00	0 095	-
Groton	G. H. Pierce	0 45	-	2 00	0 80	25 00	0 10	-
Halifax	M. F. Roach	0 40	-	2 00	1 00	20 00	0 18	-
Hamilton-Wenham	Welch & Moynihan	0 50	0 50	1 00	1 00	22 00	0 10	-
Hancock	Lane Const. Co.	0 60	-	2 00	2 00	25 00	0 12	-
Hanover-Pembroke	A. K. Finney	0 40	0 50	3 00	0 90	20 00	0 09	-
Hanover-Pembroke	Arute Bros., Inc.	0 51	0 51	2 50	1 00	18 00	0 10	-
Hanson	E. C. Sargent	0 45	-	2 00	1 00	18 00	0 09	-
Harvard	Raimo & Penakio	0 50	0 50	1 00	0 90	15 00	0 10	-
Harwich	Merritt-Chapman & Scott	0 50	0 40	4 00	1 00	20 00	-	-
Haverhill	R. G. Watkins	0 35	-	2 50	0 80	18 00	0 23	-
Hingham	T. J. McCue	0 55	-	3 00	1 00	20 00	0 09	-

CONTRACT PRICES DEC. 1, 1929, to NOV. 30, 1930

Conc. Surf. (cu. yd.)	Broken Stone (ton)	PIPE CULVERT (lineal feet)								Wooden Guard Rail (lin. ft.)	Stone Filling (cu. yd.)	Catch Basins (each)	Reinf. Conc. Ma- sonry (cu. yd.)	Gravel Borrow (cu. yd.)
		CLAY			REINF. CONCRETE									
		10 In.	12 In.	15 In.	12 In.	15 In.	18 In.	24 In.						
-	\$2 60	\$0 40	\$0 50	\$1 00	\$1 25	-	\$2 00	\$3 50	\$0 60	-	\$65 00	\$25 00	\$0 85	
\$12 85	-	-	0 46	-	0 80	-	1 60	2 50	0 60	-	50 00	-	0 55	
-	-	-	1 00	-	1 25	-	-	-	1 00	-	-	20 25	1 25	
-	2 10	-	0 70	-	-	-	-	-	0 50	-	60 00	25 00	0 50	
-	1 95	0 45	0 55	0 80	-	-	-	-	-	-	55 00	25 00	0 60	
8 00	2 00	-	0 50	-	1 00	\$1 50	1 50	2 00	0 60	-	60 00	-	0 65	
8 00	2 25	0 60	0 60	-	1 00	-	-	-	-	-	50 00	-	0 50	
8 00	2 00	-	-	-	-	-	-	-	-	-	-	-	0 55	
-	2 40	0 45	0 55	0 80	1 10	1 50	1 90	3 00	0 50	-	55 00	24 00	0 60	
-	2 80	0 45	0 50	-	0 90	-	1 95	-	0 70	-	50 00	18 00	0 49	
11 50	3 25	-	0 60	-	1 20	-	1 40	-	-	-	70 00	-	0 70	
7 00	2 60	0 40	0 45	-	0 80	1 25	1 60	3 00	0 60	-	50 00	22 00	0 55	
8 25	2 60	0 50	0 60	-	1 25	3 00	-	3 00	0 70	-	75 00	25 00	0 65	
-	2 40	0 45	0 65	-	1 25	-	2 25	3 50	0 70	\$3 00	50 00	-	0 60	
8 00	2 30	0 40	0 50	0 70	0 90	-	2 00	-	0 50	-	60 00	18 00	0 50	
-	-	0 60	0 70	-	1 00	-	-	3 00	0 60	-	60 00	-	0 60	
-	2 90	-	-	-	1 00	-	2 00	3 50	-	2 35	-	30 00	0 75	
-	2 80	-	0 75	-	1 25	-	2 25	3 25	-	1 20	65 00	25 00	0 80	
-	-	-	0 60	-	-	-	2 50	-	-	-	60 00	23 00	0 60	
-	-	-	1 00	-	-	-	-	-	0 50	-	-	20 00	0 50	
-	2 10	0 50	0 55	-	1 00	1 40	-	-	0 70	-	55 00	-	0 70	
-	2 10	0 60	0 60	-	0 80	1 25	-	-	0 60	-	60 00	30 00	0 70	
-	3 05	-	-	-	-	-	-	-	0 50	2 25	-	30 00	-	
-	-	0 50	0 65	-	1 10	1 65	2 00	-	0 75	-	70 00	30 00	0 80	
-	2 25	0 50	0 50	-	1 00	-	2 00	-	0 60	-	60 00	20 00	0 55	
-	3 50	-	0 65	1 10	1 20	1 60	2 00	3 25	0 75	-	70 00	30 00	-	
-	-	-	0 50	-	0 95	1 25	1 75	3 00	0 50	-	50 00	23 00	0 55	
9 00	2 95	-	0 50	1 00	1 00	1 25	2 00	3 50	0 60	-	60 00	29 75	0 60	
-	2 80	-	1 00	-	1 00	1 40	-	-	0 65	-	-	20 00	0 70	
-	2 00	-	0 70	-	1 20	-	1 80	2 00	0 70	-	60 00	20 00	0 65	
-	2 75	0 50	-	-	-	-	-	-	-	-	70 00	-	0 75	
-	2 35	0 45	0 55	-	0 90	-	-	-	-	-	65 00	17 00	0 60	
-	-	-	-	-	1 00	-	-	-	0 60	-	-	20 00	0 50	
-	3 10	-	-	-	-	-	2 00	-	0 50	-	-	25 00	0 36	
-	3 00	-	0 60	-	1 00	-	2 25	-	-	2 00	-	25 00	0 70	
-	2 40	0 40	0 45	0 75	-	1 50	1 50	-	0 45	3 00	60 00	-	0 60	
10 00	-	-	-	-	1 50	-	2 50	4 00	0 70	-	75 00	25 00	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	2 00	
-	2 30	-	0 45	-	0 75	-	1 40	-	0 60	-	60 00	-	0 70	
-	3 10	-	0 70	1 00	1 10	-	2 00	3 50	0 60	3 00	70 00	23 56	0 90	
-	2 30	0 40	0 50	0 75	0 75	-	-	-	-	-	50 00	-	0 60	
8 25	2 50	0 50	0 55	-	1 00	-	1 75	-	0 60	-	60 00	-	0 55	
-	-	0 60	-	-	1 25	-	-	-	0 60	-	70 00	-	-	
-	2 60	0 45	0 60	-	1 00	-	-	2 75	-	-	70 00	30 00	0 65	
-	2 25	0 50	0 60	-	-	-	-	-	-	-	60 00	26 00	0 60	
-	2 30	0 40	0 50	-	0 97	1 30	1 80	-	0 75	1 50	67 00	25 00	0 68	
-	3 05	-	-	-	1 00	-	1 50	2 50	0 50	1 90	70 00	24 00	0 65	
-	2 60	-	-	-	-	-	-	-	-	-	-	25 00	0 80	
-	2 70	0 60	0 70	-	-	-	-	-	-	2 00	70 00	25 00	0 70	
-	2 70	-	-	-	1 50	2 00	-	4 00	-	-	99 00	-	0 60	
-	2 25	0 50	-	-	1 10	-	-	-	-	-	60 00	-	0 85	
-	2 10	-	-	-	1 25	-	-	-	-	-	50 00	-	1 00	
-	-	-	0 50	-	0 90	-	-	-	0 60	-	60 00	25 00	0 60	
-	-	0 70	-	-	1 00	1 25	1 80	3 00	1 00	-	75 00	30 00	0 50	
-	-	-	-	-	-	-	-	3 00	0 50	-	-	-	0 60	
-	3 00	-	-	-	1 00	-	3 00	-	-	1 80	-	30 00	0 70	
-	3 00	-	0 50	-	1 00	1 25	1 50	3 20	-	2 15	55 00	23 00	0 70	
-	2 30	0 40	0 45	-	0 80	1 05	-	-	0 50	-	60 00	18 00	0 50	
-	3 40	-	-	-	1 50	-	2 75	-	-	2 45	-	30 00	1 25	
-	2 35	0 50	0 60	-	-	-	2 50	-	0 55	-	60 00	25 00	0 65	
-	2 20	0 50	0 60	0 80	1 00	-	-	-	-	-	60 00	-	0 60	
-	3 25	0 50	0 60	-	1 10	-	-	-	0 70	-	60 00	25 00	0 80	
-	2 25	0 50	0 60	-	1 10	-	-	-	1 00	-	50 00	-	0 50	
-	3 50	-	-	-	1 25	-	2 50	-	0 50	-	-	30 00	0 85	
-	2 80	-	-	-	1 00	-	-	-	0 60	-	-	30 00	0 60	
-	2 75	-	-	-	1 25	-	2 25	3 50	0 75	-	60 00	34 00	0 75	
-	2 75	0 45	0 55	0 85	1 25	-	3 00	-	0 60	-	60 00	-	0 60	
-	2 55	-	-	-	1 00	-	-	2 50	0 70	1 75	-	25 00	0 70	
-	-	0 60	-	-	-	-	-	-	-	-	70 00	30 50	0 70	
-	2 40	0 40	0 45	0 65	0 86	1 05	1 50	-	0 50	-	60 00	18 00	0 50	
-	2 40	0 55	0 60	0 80	1 20	-	-	-	0 65	-	65 00	22 00	0 65	

CONTRACT PRICES DEC. 1, 1929, TO NOV. 30, 1930 — *Continued*

TOWN OR CITY	CONTRACTOR	EXCAVATION				Plain Conc. Masonry (cu. yd.)	BIT. SURFACING	
		Earth (cu. yd.)	Borrow (cu. yd.)	Ledge (cu. yd.)	Trench (cu. yd.)		Asphalt (gal.)	Tar (gal.)
Hingham								
Weymouth	Frank Lanza & Sons	\$0 65	-	\$0 65	\$1 00	\$18 00	\$0 09	-
Holbrook	Perini & Ampolini	0 50	-	2 00	1 00	20 00	0 10	-
Holden	Frank & Frank Const. Co.	0 55	-	3 00	1 00	18 00	0 10	-
Holliston	Mainini & Rosenfeld	0 50	\$0 55	2 50	0 50	15 00	0 08	-
Hudson	A. M. Custance & Co.	0 60	0 60	4 00	1 00	18 00	0 10	-
Hudson	Wm. J. Sullivan	0 50	-	2 50	1 00	-	0 12	-
Ipswich-Rowley-								
Newbury-								
Newburyport	P. J. Holland	0 40	0 60	2 50	1 50	20 00	0 08	-
Lakeville	E. W. Burr	0 50	-	3 00	1 00	15 00	0 09	-
Lee	D. W. Dwyer	0 65	-	2 85	1 35	18 00	0 11	-
Lenox	Lane Const. Corp.	0 50	0 60	0 50	1 00	20 00	0 10	-
Lenox	N. H. Rd. Const. Co.	0 60	-	2 00	1 10	25 00	0 11	-
Lexington	J. Iafolla Const. Co.	0 45	-	2 50	0 75	18 00	0 09	-
Littleton	G. Gregorio Bros.	0 50	-	2 00	1 00	20 00	0 12	-
Lunenburg	H. & J. P. Green	0 49	0 50	1 95	0 95	20 00	0 10	-
Lynnfield	R. G. Watkins & Son	0 40	-	2 00	0 90	18 00	0 085	-
Marblehead	Octavius Menici	0 40	-	5 00	-	25 00	0 085	-
Marion	Jos. McCormick	0 45	-	2 50	1 25	25 00	0 09	-
Marlborough	T. J. Kelley	0 50	-	2 50	0 90	20 00	0 085	-
Marshfield	D. Gregorio Bros.	0 35	0 50	1 50	0 75	18 00	-	\$0 14
Medfield	Greenough Const. Co.	0 55	-	3 00	1 00	12 00	0 095	-
Medway	Middlesex Const. Co.	0 50	-	4 00	1 00	20 00	0 095	-
Medway	Hagan-Thibodeau Const. Co.	0 30	-	2 00	-	-	-	0 11
Mendon	D. G. DiPietro	0 32	0 50	2 00	1 00	17 00	-	0 12
Merrimac	P. J. Holland	0 25	-	3 50	-	18 00	0 12	-
Middleborough	Frank Lanza & Sons	0 44	0 44	2 00	1 00	18 00	0 095	-
Middleborough-								
Rochester	Perini & Ampolini	0 55	0 50	4 00	-	18 00	-	0 11
Millbury	Guaranty Const. Co.	0 65	-	6 00	-	40 00	0 10	-
Millis	D. S. DiPietro & Co.	0 35	0 40	1 75	1 00	18 00	0 115	-
Millis	Greenough Const. Co.	0 50	-	3 00	1 00	-	0 09	-
Monson-Palmer	Lee Const. Co.	0 40	0 35	2 10	1 00	18 00	0 10	-
Montague	Kelleher Corp.	0 40	-	2 50	1 00	20 00	0 095	-
Nantucket	John C. Ring	1 00	1 00	1 00	1 00	30 00	-	-
Natick	Sherry Const. Co.	0 90	-	0 90	-	25 00	0 09	-
Natick-Wellesley	B. Perini & Sons, Inc.	0 50	-	2 50	-	20 00	-	-
Newbury	Welch & Moynihan	0 40	0 25	2 25	1 00	20 00	-	0 13
North Attleborough	B. Perini & Sons, Inc.	0 40	0 50	4 00	1 25	20 00	0 095	-
Norton	G. Bonazzoli & Sons	0 40	0 40	4 00	-	30 00	0 09	-
Orange	Kelleher Corp.	0 75	0 50	0 75	1 50	20 00	0 10	-
Oxford	Frank & Frank Const. Co.	0 50	-	3 00	1 00	18 00	0 10	-
Palmer	Chas. E. Horne	0 40	-	3 00	1 00	18 00	0 13	-
Petersham	Revere Exc. Co.	0 45	0 40	1 75	1 00	0 18	0 12	-
Phillipston	Roy M. Wright	0 50	0 50	2 00	1 00	18 00	-	0 15
Provincetown	M. F. Roach & Sons, Inc.	0 65	-	-	1 00	20 00	-	-
Quincy	E. C. Sargent	0 45	-	3 00	1 00	-	0 09	-
Randolph-Quincy-								
Milton	D. M. Biggs & Co.	0 40	-	3 00	1 00	20 00	0 085	-
Reading	Bratley Const. Co.	0 70	0 45	2 50	0 90	12 00	0 07	-
Reading-Stoneham	Angelo Susi & Co.	0 45	-	2 50	0 95	18 00	0 08	-
Rehoboth	Clark & Rocklin	0 50	-	2 00	1 00	18 00	0 13	-
Revere-Saugus	M. McDonough	1 00	0 50	-	-	-	0 075	-
Rockport	So. Shore Const. Co.	0 40	-	2 00	1 00	17 00	0 07	-
Rockport	Franklin Const. Co.	0 50	-	4 00	0 50	20 00	0 10	-
Rowley	Welch & Moynihan Co.	0 45	0 55	2 00	1 00	25 00	0 09	-
Royalston	R. E. Bull	0 50	0 50	4 00	-	-	-	0 11
Sandisfield	P. J. Kennedy	0 80	-	7 50	1 00	25 00	0 15	-
Savoy	A. G. Bianchi	0 75	0 60	3 50	1 50	-	-	0 16
Sharon	Arute Bros.	0 40	0 50	2 00	-	18 00	-	0 13
Sharon	Arute Bros.	0 50	0 60	3 00	1 00	25 00	0 09	-
Sherborn	Greenough Const. Co.	0 60	0 50	2 50	1 00	20 00	0 08	-
Shrewsbury-								
Boylston	H. & J. P. Green	0 50	0 50	2 00	1 00	20 00	0 10	-
Shrewsbury	Lane Const. Co.	0 60	0 30	0 60	1 50	22 00	0 10	-
Shrewsbury-								
Northborough-								
Westborough	Carlo Bianchi	0 45	0 45	2 50	1 00	18 00	0 09	-
Westborough-								
Southborough	B. Perini & Sons	0 40	0 50	3 50	1 00	20 00	0 085	-
South Hadley	Warner Bros. & Goodwin	0 50	-	2 00	1 00	25 00	0 10	-
Southwick	Lane Const. Corp.	0 45	0 65	2 00	0 75	22 00	0 085	-
Spencer	Frank Seretto & Sons, Inc.	0 50	-	1 50	-	16 00	-	0 15
Sterling	N. E. Rock Exc. Co.	0 40	-	1 00	1 00	20 00	-	0 12
Stockbridge	N. H. Rd. Const. Co.	0 55	0 55	1 00	1 10	25 00	0 11	-

CONTRACT PRICES DEC. 1, 1929, TO NOV. 30, 1930 — *Continued*

Conc. Surf. (cu. yd.)	Broken Stone (ton)	PIPE CULVERT (lineal feet)							Wooden Guard Rail (lin. ft.)	Stone Filling (cu. yd.)	Catch Basins (each)	Reinf. Conc. Ma- sonry (cu. yd.)	Gravel Borrow (cu. yd.)
		CLAY			REINF. CONCRETE								
		10 In.	12 In.	15 In.	12 In.	15 In.	18 In.	24 In.					
-	\$2 30	\$0 45	\$0 60	-	\$1 20	\$1 60	\$2 50	-	\$0 65	-	\$60 00	\$24 00	\$0 70
-	-	0 50	0 75	-	1 25	1 75	-	-	-	-	50 00	-	0 75
-	3 25	-	0 60	-	1 00	-	-	-	-	\$2 00	65 00	-	0 70
-	-	-	0 50	-	1 00	-	-	-	0 75	-	-	20 00	0 60
-	3 00	0 60	-	-	1 00	-	2 00	-	-	-	70 00	19 00	0 60
\$10 00	2 75	0 50	0 60	\$1 25	-	-	-	-	-	-	60 00	-	0 60
9 00	2 50	0 60	0 60	1 25	1 00	2 00	2 00	\$4 00	0 60	-	60 00	30 00	0 75
-	2 90	-	-	-	0 83	1 15	-	-	-	-	65 00	-	0 60
-	3 05	-	-	-	1 20	2 50	-	-	-	-	75 00	23 50	0 70
-	2 65	-	1 00	-	1 10	-	-	3 00	0 50	1 50	60 00	22 00	0 50
-	2 65	-	0 65	-	1 10	-	-	-	0 75	2 50	80 00	30 00	1 00
-	2 10	-	0 60	-	1 15	1 50	2 00	-	0 60	-	60 00	22 00	0 70
-	2 30	0 25	0 35	0 40	-	-	-	-	0 50	-	-	25 00	0 50
-	2 95	0 50	0 60	-	1 00	1 40	2 00	3 10	0 60	-	50 00	22 00	0 60
-	2 15	0 45	0 50	0 85	0 85	1 25	-	-	0 70	-	60 00	-	0 50
-	1 70	0 50	0 60	0 90	-	-	-	-	-	-	60 00	-	0 01
-	2 70	-	-	-	1 00	1 25	2 00	3 50	-	-	80 00	-	0 75
-	2 50	-	0 50	-	0 90	1 50	-	-	0 60	-	60 00	-	0 50
-	-	-	0 50	0 65	1 00	1 50	2 00	3 00	0 50	-	50 00	-	0 50
-	2 60	0 45	-	-	-	-	-	-	-	-	60 00	-	0 80
-	2 25	0 50	0 60	1 00	-	-	-	-	-	-	60 00	-	0 75
-	-	-	-	-	-	-	-	-	0 45	-	-	18 00	0 60
-	-	-	-	-	-	-	-	-	-	1 80	-	17 00	0 50
-	-	0 40	0 50	-	0 40	1 20	-	2 90	-	-	-	18 00	0 55
-	-	-	-	-	1 05	2 00	2 25	4 00	0 60	-	60 00	27 00	0 60
-	-	0 50	-	-	1 50	-	-	4 00	-	-	75 00	-	0 50
10 50	3 50	0 60	0 65	-	1 00	-	-	-	0 50	2 00	65 00	-	0 70
-	-	-	-	-	-	-	-	-	-	-	-	-	0 50
-	2 50	-	-	-	-	-	-	-	-	-	60 00	-	0 70
8 75	2 85	-	0 60	-	1 00	-	-	2 50	0 50	-	60 00	25 00	0 50
-	2 25	-	0 75	-	-	-	-	4 00	0 50	-	60 00	25 00	0 60
-	-	1 50	-	-	1 50	-	-	-	1 00	-	80 00	-	-
9 25	2 55	-	-	-	1 00	-	-	-	0 60	2 00	-	40 00	0 70
9 00	2 50	-	0 55	0 90	1 10	-	1 80	-	-	2 00	60 00	-	0 80
-	-	-	0 75	-	-	-	-	-	0 75	-	-	35 00	0 55
-	-	0 50	0 60	-	0 95	1 30	1 80	2 80	0 50	-	65 00	-	0 60
-	-	0 50	-	-	1 00	-	-	-	0 50	-	60 00	-	0 60
-	3 00	0 60	0 70	-	1 25	1 75	2 00	-	0 50	-	70 00	30 00	0 70
-	3 10	-	1 00	-	1 00	-	1 25	-	-	2 25	65 00	-	0 60
-	-	-	0 50	-	-	-	-	-	-	1 60	75 00	18 00	0 60
-	-	-	-	-	1 00	-	-	3 00	-	1 75	-	18 00	0 60
-	-	-	0 70	-	1 10	-	-	3 00	-	1 75	-	22 00	0 70
-	-	-	-	-	1 25	-	-	-	-	-	-	35 00	-
-	2 40	0 40	-	0 80	-	-	-	-	-	-	65 00	-	0 75
8 25	2 35	-	-	-	1 00	1 50	2 00	2 50	1 00	-	70 00	22 00	0 80
-	-	0 60	-	-	-	-	-	-	-	-	60 00	-	0 60
9 00	2 00	0 50	0 60	0 85	1 00	-	-	3 00	-	-	60 00	18 00	0 70
-	2 75	-	-	-	-	-	-	4 00	-	1 65	50 00	25 00	0 60
-	1 80	-	-	-	-	-	-	-	-	-	-	-	1 00
-	2 55	0 40	0 45	0 75	0 75	1 20	-	-	0 50	-	65 00	-	0 65
-	2 80	0 60	-	-	0 90	-	-	-	0 70	-	60 00	25 00	0 80
-	2 55	0 55	0 65	-	1 10	-	-	3 50	0 80	-	55 00	25 00	0 65
-	-	-	-	-	-	-	-	-	-	1 90	-	28 00	0 65
-	2 50	-	-	-	1 50	-	4 00	-	0 70	2 70	80 00	28 00	1 25
-	-	-	-	-	-	-	-	-	-	2 00	-	25 00	1 00
-	-	-	-	-	1 25	-	2 50	-	0 60	-	-	25 00	0 50
-	2 75	0 50	-	-	-	-	-	-	-	-	60 00	-	0 60
-	2 30	0 50	0 60	-	1 20	1 50	-	-	0 60	-	60 00	30 00	0 60
-	3 00	-	0 60	-	1 10	-	-	-	-	2 00	60 00	25 00	0 55
8 00	3 30	-	0 55	0 90	1 20	-	-	-	0 50	-	65 00	25 00	0 75
8 70	2 70	-	0 50	-	1 00	-	2 00	-	0 60	-	75 00	25 00	0 60
8 35	2 50	-	0 55	-	1 10	1 50	1 95	-	0 55	-	60 00	22 50	0 65
-	2 00	-	0 60	0 70	1 10	1 40	-	-	0 50	-	-	30 00	0 50
-	2 20	0 40	0 50	-	-	-	-	-	0 50	-	55 00	25 00	0 60
-	-	-	-	-	0 90	-	2 10	2 50	-	1 65	-	20 00	0 50
-	-	-	-	-	0 90	-	-	-	-	1 90	-	25 00	0 55
-	2 75	-	0 65	-	1 10	-	1 75	3 00	-	-	80 00	30 00	0 75

CONTRACT PRICES DEC. 1, 1929, TO NOV. 30, 1930 — *Concluded*

TOWN OR CITY	CONTRACTOR	EXCAVATION				Plain Conc. Masonry (cu. yd.)	BIT. SURFACING	
		Earth (cu. yd.)	Borrow (cu. yd.)	Ledge (cu. yd.)	Trench (cu. yd.)		Asphalt (gal.)	Tar (gal.)
Stoneham . . .	G. Retundi . . .	\$0 50	-	\$3 00	-	\$20 00	\$0 09	-
Stoughton . . .	John A. Silva . . .	0 50	-	4 00	\$1 00	-	0 09	-
Sutton . . .	Guaranty Const. Co. . .	0 50	-	5 00	1 00	25 00	0 15	-
Swampscott . . .	M. McDonough Co. . .	-	-	-	-	-	0 14	-
Taunton-Dighton-Rehoboth . . .	Sherry Const. Co. . .	0 80	-	0 80	1 00	18 00	0 09	-
Tewksbury . . .	Greenough Const. Co. . .	0 50	-	3 00	1 00	20 00	0 09	-
Tyngsborough . . .	Simpson Bros. Corp. . .	0 40	\$0 35	2 00	1 00	21 00	0 08	-
Waltham-Watertown . . .	Thos. J. McCue . . .	0 30	-	2 00	1 00	20 00	0 08	-
Waltham-Weston . . .	Jos. P. McCabe, Inc. . .	0 50	0 40	2 50	1 00	20 00	0 08	-
Wareham . . .	S. W. Lawrence . . .	0 50	-	5 00	1 00	20 00	0 20	-
Wareham . . .	A. K. Finney . . .	0 40	0 40	5 00	0 90	-	0 11	-
Westborough . . .	J. F. Rooney . . .	0 50	0 30	2 50	2 00	20 00	0 08	-
Westborough . . .	H. & J. P. Green Co. . .	0 50	-	2 25	1 00	22 00	0 09	-
West Boylston . . .	Frank & Frank Const. Co. . .	0 35	-	2 50	1 00	25 00	-	\$0 125
West Bridgewater . . .	Washburn & Sheridan . . .	0 60	-	5 00	1 50	25 00	0 14	-
Westford . . .	Antonio Pallotto . . .	0 50	0 50	2 50	0 75	20 00	0 10	-
West Newbury . . .	P. J. Holland . . .	0 75	-	0 75	1 25	18 00	0 12	-
Weston . . .	So. Shore Const. Co. . .	0 45	-	2 00	1 00	18 00	0 09	-
West Springfield . . .	D. O'Connell's Sons . . .	0 40	-	3 00	1 00	25 00	0 095	-
West Springfield . . .	D. O'Connell's Sons . . .	0 60	-	3 00	1 05	25 00	0 11	-
Whately . . .	Kelleher Corp. . .	0 30	-	3 00	1 00	20 00	0 10	-
Winchendon . . .	J. Iafolla Const. Co. . .	0 40	0 45	2 50	1 00	18 00	0 14	-
Windsor . . .	Kelleher Corp. . .	0 55	0 20	2 00	1 25	18 00	0 045	-
Williamstown . . .	D. S. McGrath . . .	0 90	1 00	3 00	1 25	20 00	0 12	-
Williamstown . . .	Kelleher Corp. . .	-	0 50	-	-	-	0 11	-
Wrentham . . .	T. J. Quinn & Co. . .	0 70	-	3 00	-	-	0 11	-

CONTRACT PRICES DEC. 1, 1929, TO NOV. 30, 1930 — *Concluded*

Conc. Surf. (cu. yd.)	Broken Stone (ton)	PIPE CULVERT (lineal feet)								Wooden Guard Rail (lin. ft.)	Stone Filling (cu. yd.)	Catch Basins (each)	Reinf. Conc. Ma- sonry (cu. yd.)	Gravel Borrow (cu. yd.)
		CLAY			REINF. CONCRETE									
		10 In.	12 In.	15 In.	12 In.	15 In.	18 In.	24 In.						
\$9 00	\$2 20	\$0 45	\$0 47	-	\$0 90	-	-	\$2 70	-	-	\$55 00	-	\$0 75	
-	2 50	0 50	-	-	-	-	-	-	-	-	50 00	-	0 70	
-	4 50	-	-	-	1 00	-	-	-	-	\$3 25	75 00	\$24 00	1 00	
-	2 00	-	-	-	-	-	-	-	-	-	-	-	-	
8 50	2 80	0 50	0 60	-	1 00	\$1 25	\$2 00	3 00	\$0 60	-	75 00	25 00	0 80	
-	2 10	-	0 50	-	1 00	-	-	-	-	-	60 00	30 00	0 60	
-	2 40	-	0 50	-	1 00	-	-	-	0 60	-	65 00	19 00	0 45	
-	2 20	0 40	0 50	-	1 00	-	-	-	0 60	-	60 00	-	0 60	
-	2 00	0 40	-	-	-	-	-	-	0 50	-	50 00	22 00	0 45	
-	-	0 50	-	-	1 10	-	2 25	3 50	-	-	-	30 00	0 40	
-	2 70	-	-	-	-	-	-	-	-	-	-	22 00	0 50	
-	2 60	-	-	-	1 00	-	-	-	-	1 90	-	20 00	0 70	
-	2 56	-	-	-	1 10	-	1 70	-	-	1 80	-	25 00	0 60	
-	-	0 50	0 60	-	1 00	-	-	-	-	2 25	65 00	25 00	0 60	
-	-	1 00	1 00	-	-	-	-	2 00	1 00	-	100 00	-	0 70	
-	-	-	0 65	-	1 00	-	2 00	-	0 60	-	60 00	25 00	0 60	
-	-	-	-	-	0 90	-	-	-	0 70	-	-	18 00	0 40	
-	2 25	-	0 45	-	0 75	-	-	-	0 50	-	70 00	-	0 70	
8 80	1 85	0 50	0 55	\$0 95	-	-	-	-	-	-	60 00	-	0 70	
-	2 30	0 55	0 65	1 15	-	-	-	-	-	-	60 00	30 00	1 00	
-	2 30	0 55	0 65	-	1 25	-	-	-	0 50	-	-	30 00	0 70	
-	-	-	0 50	-	1 00	-	2 00	3 00	-	1 75	-	20 00	0 70	
-	3 00	-	-	-	1 10	-	1 90	3 00	-	2 00	60 00	24 00	0 55	
-	3 60	-	0 75	-	-	-	-	-	0 60	-	75 00	24 00	1 25	
-	3 65	-	-	-	-	-	-	-	-	-	-	-	1 20	
-	2 85	0 50	-	-	-	-	-	-	-	-	90 00	-	0 75	

REGISTRY OF MOTOR VEHICLES

In general, the 1930 statistics do not indicate the usual increase in the number of applications received; this decrease, however, is offset by the constantly increasing use made of the Registrar's records and correspondence involved. The two largest items of decrease were in the total registrations and in the examination of new operators.

Under chapter 379 of the Acts of 1928, the Registrar is required to furnish a copy of every registration record to the Commissioner of Corporations and Taxation, the record being forwarded to the various boards of assessors as a basis of the excise tax bill sent to the owner of each motor vehicle registered. This law was amended in 1930, and the perfecting amendment was very helpful in removing some of the difficulties first experienced with this law. Minor changes were made on the registration blank in order that the Registrar might be in a position to furnish just the information required by the assessors in connection with computing the excise tax and, as a result of these changes, this law is not now imposing any undue burden of details, particularly in the matter of correspondence, on the Registrar.

The activities of the Registry of Motor Vehicles, working towards greater safety on the highways, have been continued without abatement, and close cooperation between the various safety committees, police and other officials and organizations throughout the State, having to do with this ever present problem of highway safety, has been at all times maintained.

A few of the outstanding figures for the year, together with a comparison of the previous year, follow: —

	1929	1930
Motor Vehicle certificates of registration issued	1,023,084	1,013,118
Licenses to operate issued	944,338	982,795
Examinations of applicants for licenses . . .	183,758	123,001
Licenses and registrations revoked and suspended	53,133	52,954
Licenses revoked for driving under influence of liquor	5,381	5,052
Total number of applications handled . . .	2,106,564	2,104,342
Gross receipts from fees	\$6,498,854.72	\$6,462,618.51

REGISTRATIONS OF PASSENGER CARS, COMMERCIAL VEHICLES AND MOTOR CYCLES

The following registration figures show a little over 1% decrease in passenger registrations, with a very slight increase in commercial registrations, the motor cycle registrations continuing to decrease as they have for several years past.

	1905	1910	1915	1920	1925	1929	1930
Passenger cars . . .	4,889	31,360	90,580	251,570	663,858	903,648	893,558
Commercial vehicles . . .	—	—	12,053	52,968	100,480	113,268	114,918
Motor cycles . . .	553	3,358	9,520	15,142	10,333	6,168	4,642
Totals . . .	5,442	34,718	112,153	319,680	774,671	1,023,084	1,013,118

EXAMINATIONS FOR LICENSES

The method of examining new operators and the examination itself were considerably changed during the year 1930. The old system of having operators appear at examining points, and many times being turned away if there were too many waiting, was done away with and all examinations were by specific appointment for certain hours, thus insuring each applicant his test at the time designated. The examination itself has been extended to include a thorough test of the applicant on the motor vehicle law, a reading test, an eye test, as well as the usual actual demonstration on the highways. Whether or not the new examination is accountable for the reduction in the number of applicants

for new licenses in 1930 is not known, but, in any event, this classification is one of those in which a decrease should be of little concern. It is fair to assume that the decrease represents persons who decided, after study, that they could not pass the revised examination. It is believed that the new examination system has been found extremely satisfactory to all concerned and particularly in that it does away with the long delays that prospective operators formerly experienced in securing their licenses during the busy periods. Examinations for licenses were held at 55 points in the State with the results as tabulated below: —

	1929	1930
Operators passed	122,887	88,592
Operators unfit	33,104	19,307
Restriction, removal, passed	22,808	12,166
Restriction, removal, unfit	3,717	1,601
“Competency” passed	1,144	1,241
“Competency” unfit	98	94
Total examinations	183,758	123,001

BRANCH OFFICES

The branch offices of the Registry of Motor Vehicles assist in the distribution of number plates, the issuing of licenses and furnishing general information relative to the motor vehicle laws. The Registrar has continued giving hearings at stated intervals at the branch offices in Pittsfield, Springfield, Worcester, Lawrence, Lowell, Fall River and New Bedford, so that persons living in these districts whose licenses or rights have been suspended or who, for other reasons, wish an appointment with the Registrar may be heard by him or by his deputy or assistant, without the necessity of making a trip to Commonwealth Pier at Boston. Each branch office supervises the work of the examiners and investigators and of law enforcement in its district. The following table gives approximate figures showing the distribution of applications received at the branch offices and at the central office at Commonwealth Pier, Boston: —

Approximate Distribution of Registrations, Licenses, Etc.

	Regis- trations	First Licenses	License Renewals	Miscel- laneous	Total
Boston:					
Counter	245,000	—	124,000	95,000	464,000
Mail	154,000	—	489,000	26,000	669,000
Examinations	—	32,000	—	3,500	35,500
Pittsfield	25,000	4,000	15,000	8,000	52,000
Springfield } Greenfield }	80,000	9,800	50,000	30,000	169,800
Worcester } Fitchburg }	77,000	8,500	44,000	26,000	155,500
Lawrence	34,000	4,000	24,000	12,000	74,000
Lowell	26,000	3,500	18,000	8,500	56,000
Fall River	23,000	4,000	18,000	8,000	53,000
New Bedford	23,000	3,000	21,000	8,000	55,000
Lynn	64,000	8,500	38,000	23,000	133,500
Quincy	32,000	7,000	22,000	13,000	74,000
Brockton	40,000	3,500	26,000	15,000	84,500
Hyannis	10,000	2,500	4,600	4,500	21,600
Nantucket ¹	1,000	—	—	—	1,000
Oak Bluffs ¹	2,000	—	—	—	2,000
Totals	836,000 ³	90,300	893,600	280,500 ²	2,100,400

¹ Licenses and miscellaneous applications included in counter figures.
² This figure includes approximately 160,000 number plate reissues.
³ Does not include reissues (see Miscellaneous).

A new branch office was opened in Fitchburg on July 1st, 1930, this office being classified as a sub-office coming under the jurisdiction of the Worcester office.

COMPULSORY MOTOR VEHICLE LIABILITY INSURANCE

The following figures give an approximate idea of the volume of papers received and notices mailed in connection with the carrying out of the law regarding compulsory motor vehicle liability insurance.

Notices of Cancellation of Insurance Policies Received and Intents to Revoke Mailed

	1929	1930
(a) For non-payment of premium	49,846	70,855
(b) For other reasons	15,755	14,635
Total	65,601	85,490
Revocations	25,596	28,959
Sets of number plates returned	97,036	94,290

It is interesting to note that the receipt of 85,490 notices of cancellation from insurance companies required the mailing of the same number of notices of intent to revoke; that 18,583 of these cases were adjusted by the filing of certificates by a new company; 35,017 cancellations were adjusted by the filing of reinstatement notices from the same company; 2,931 by the surrender of registration plates prior to the effective date of cancellation; and 28,959 by the revocation of the plates and certificates. In connection with the surrender of the number plates it was necessary to send notices of the return of 94,290 plates to the various insurance companies covering the registrations involved.

Particular attention should be directed to the fact that of the approximate 29,000 revocations only about 12,000 persons returned their plates and certificates promptly upon receiving notice from this office. The return of approximately 10,000 more sets of plates and certificates was secured through the efforts of the police departments and the examiners and inspectors of the Registry, leaving approximately 8,000 sets of plates not returned, although the registrations involved had been revoked and the insurance cancelled. Practically all of these revocations were due to non-payment of premium cancellation notices.

AIRCRAFT

Practically all phases of the work of the Aviation Section show an increase over the previous year, principally in the number of aircraft registered and of pilot's permits issued. There is, however, a very satisfactory decrease in airplane accidents. The work carried on under the provisions of chapter 388 of the Acts of 1928, has resulted in the improved conditions of airports located throughout the State. The Engineering Section has surveyed the landing fields and has checked the various fields after improvements or changes have been made, so that it is possible to operate safely from many airports inspected by the Department of Public Works.

The Aviation Section has cooperated with various organizations both within and without the State, including the United States Department of Commerce, Aeronautics Branch, so that there has grown up throughout the Commonwealth a better understanding concerning aviation in general.

The following statistics which give a summary of the work indicate a strict enforcement of the law. While an increase in registrations and licenses is shown, there is a decrease in accidents, which indicates that the restrictions imposed on the operation of aircraft apparently tend towards safety in this comparatively new method of transportation:—

	1929	1930
Pilots' licenses issued	42	39
Airplanes registered	36	43
Pilots license fees received	\$355	\$335
Airplane registration fees received	\$540	\$645
Pilots examined for licenses and amendments	36	45
Aircraft examined for registrations permits and repairs	60	361
Pilots' permits issued	173	338
Aircraft permits issued	135	231
Suspensions of licenses, registrations and rights to operate	41	53
Court prosecution for violations of aircraft laws	6	5
Surveys of bodies of water for seaplane bases	—	1
Surveys of fields for airports	47	26
Recheck surveys of fields for airports	2	10
Buildings surveyed for air marking	—	15
Flying fields approved	3	14
Flying fields disapproved	14	14
Investigations made by aircraft inspectors	313	650
Rulings made by Registrar	1	3
Airplane accidents:		
Crack-ups	68	50
Non-fatals	19	17
Fatals	8	4
Unknown	—	1
Persons injured	29	39
Persons killed	13	5
Planes damaged	—	53
Planes washed out	—	20
Caused by motor failure	28	11
Structural failure	10	7
Improper operation and other reasons	57	54
Ground accidents:		
Crack-ups	<div> <div>No</div> <div>Record</div> <div>Kept</div> </div>	20
Non-fatals		3
Persons injured		3
Planes damaged		23
Planes washed out		2

INSPECTION OF MOTOR VEHICLE EQUIPMENT

Periodic Inspection Regulations of the Registrar, made in accordance with the provisions of section 7A, chapter 90 of the General Laws, became effective on August 1, 1930. During August and September the safety equipment on over 750,000 motor vehicles was inspected at more than 2,000 official inspection stations, which had been approved by the Registrar for this purpose. Adjustments or repairs were found necessary in about 70% of the inspections reported. As a result, a decided improvement was noticed in the general condition of brakes, lights, and other equipment on vehicles being operated on the highways of this Commonwealth.

Although most of the stations which conducted the inspections were approved only a short time before the beginning of the equipment campaign, they were selected with great care and the work was performed honestly and efficiently. No temporary inspection stations were approved, so that there is now a trained organization sufficient to take care of all future inspections, with a personnel of more than 3,000 adjusters, each one of whom was tested as to his knowledge and ability to conduct tests and effect necessary repairs before being given the approval by the Department.

During August and September, while the inspection campaign was in progress, there were 23 fewer persons killed in Massachusetts than during the corresponding period in 1929, which is some indication that the correction of equip-

ment defects may have had a direct effect in reducing accidents, besides having distinct educational advantages.

Analysis of the Equipment Inspection Campaign may be summarized as follows: —

Total number of cars inspected	752,031
Total O. K. without repair or adjustment	225,609 = 30%
Total requiring replacement or adjustment	526,422 = 70%

Repairs or adjustments on the 526,422 vehicles requiring correction of defects in equipment were as follows: —

Brakes and lights	127,844
Brakes only	82,724
Lights only	315,854

Horn, mirror, muffler and other minor items of inspection required adjustment or repair on 60,162 vehicles.

Brakes and Lights

Fifteen men were regularly assigned to equipment work. Besides their duties in connection with the approval of official inspection stations and adjusters, these men did considerable road work which consisted principally of reporting or tagging overloaded commercial vehicles and vehicles operated with defective brakes, lights, or other equipment. 3,583 motor vehicles were tagged for defective brakes by the equipment inspectors and more than 20,000 cars because of defective lights.

Headlighting and Rear Lamps

The Registrar approved no new headlamps or devices during 1930. Extensions of approval certificates already in force, however, are made as follows: —

1. One extension of single filament headlamp, and
2. Twenty extensions of two-filament tilting-beam headlamps showing that the tendency towards the tilting-beam type and the proper design to eliminate focusing mechanisms, which tendencies were indicated in last year's report, have become almost standard practices in headlamp design. Sixteen rear lamps were approved by the Registrar during the year. All of these were of the type in which the tail light was combined with stop signals and in some cases backing lights. One supplementary extension was granted of a tail lamp previously approved.

MOTOR VEHICLE DEATHS, INJURIES, COLLISIONS

The deaths caused by motor vehicles in 1930 numbered 795, an increase of 18 or 2.3 per cent as compared with the record of the previous year. The record of persons killed and injured in motor vehicle accidents in 1929 and 1930 is as follows: —

Motor Vehicle Accidents to Persons

	Persons Killed		Persons Injured	
	1929	1930	1929	1930
Pedestrians by autos	436	438	18,090	15,413
Pedestrians by motor cycles	5	3	35	32
Pedestrians near street cars	9	4	31	32
Occupants of autos	242	281	25,801	26,688
Occupants of autos at railroad crossings	28	22	47	31
Occupants of motor cycles	26	16	565	589
Bicycle riders	14	13	955	812
Occupants horse-drawn vehicles	5	9	302	257
Coasters (on sleds)	9	7	285	333
Coasters (on wheels)	3	2	0	92
Totals	777	795	46,111	44,279

					Children Killed		Children Injured	
					1929	1930	1929	1930
Boys	.	.	.	.	137	116	7,294	7,163
Girls	.	.	.	.	60	45	3,292	3,689
Totals	.	.	.	.	197	161	10,586	10,852

					Number of Collisions		1929	1930
Collision with pedestrian	17,585	14,587
Collision with automobile	20,826	17,145
Collision with horse-drawn vehicle	392	282
Collision with railroad train	68	25
Collision with street car	447	327
Collision with fixed object	2,869	2,624
Collision with bicycle	959	801
Non-collision accident (car overturned)	—	525
Collision with motor cycle	557	574
Collision with sled	255	319
Collision with animal	—	92
Totals	43,958	36,301
In the daytime	29,645	22,447
After dark	14,313	13,854
Totals	43,958	36,301

ACCIDENT REPORT LETTERS

As provided by Section 26, Chapter 90, General Laws, every operator of a motor vehicle in any manner involved in an accident in which any person is killed or injured is required to report in writing to the Registrar. The number of these accident reports received in 1930 was 38,374 as compared with 35,014 received in 1929. Under the requirements of Section 29, Chapter 90, General Laws, 16,970 similar reports of accidents were received from Police Departments throughout the State in 1930 as against 17,186 received in 1929.

COMPARATIVE STATEMENT OF YEARLY REGISTRATIONS, LICENSES, DEATHS, INJURIES, REVOCATIONS AND SUSPENSIONS*

Year	Automobiles Registered	Motor Cycles Registered	Total Registrations	Number of Persons Killed	Number of Persons Injured	Licenses Issued	Total Suspensions and Revocations	For Operating Under Influence of Liquor
1910	31,360	3,358	34,718	77	963	41,259	283	22
1911	38,907	3,658	42,565	110	1,248	51,950	360	14
1912	50,132	5,034	55,166	142	1,962	66,645	546	56
1913	62,660	7,127	69,787	188	2,923	81,034	608	87
1914	77,246	8,161	85,407	229	4,010	99,532	858	131
1915	102,633	9,520	112,153	294	6,197	133,935	1,153	202
1916	136,809	10,713	147,522	315	9,131	171,596	1,396	320
1917	174,274	11,065	185,339	438	7,282	214,229	1,831	485
1918	193,497	12,862	206,359	499	8,598	235,140	2,343	553
1919	247,183	13,698	260,881	582	16,287	297,968	2,156	554
1920	304,538	15,142	319,680	481	21,182	261,539	2,944	888
1921	360,731	12,058	372,790	544	11,487	380,519	4,899	1,508
1922	449,838	11,675	461,513	522	15,277	444,173	8,369	2,460
1923	566,150	11,733	577,883	578	16,217	536,819	11,613	3,333
1924	672,315	10,778	683,093	709	19,579	620,439	14,154	4,395
1925	764,338	10,333	774,671	755	25,736	698,378	16,249	4,654
1926	826,224	9,215	835,439	705	25,351	763,951	18,705	4,863
1927	819,703	7,245	826,948	693	31,721	814,094	31,252	4,983
1928	883,595	6,656	890,251	715	42,201	870,160	40,814	5,071
1929	1,016,916	6,168	1,023,084	777	46,111	944,338	53,133	5,381
1930	1,008,476	4,642	1,013,118	795	44,279	982,795	52,954	5,052

* While it may be noted that the number of persons killed shows an increase over 1929, while at the same time there was a decrease in motor vehicles registered, it should be remembered that this decrease in motor vehicle registrations is due to a falling off in the number of reissues as, according to the number plate record, there were actually 20,000 more sets of plates issued in 1930 than in 1929. Further, the receipts from the gasoline tax plainly indicate that the total number of miles traveled by motorists over our highways in 1930 was greatly in excess of that of the previous year, which fact also has a specific direct bearing on the unfortunate increase in fatalities.

INVESTIGATIONS AND PROSECUTIONS BY INSPECTORS

Investigations were made under the direction of the Chief Inspector relative to fatal and non-fatal accidents, headlight violations, inspection of garages, miscellaneous complaints and the prosecution of motorists in court. The work of the inspectors is indicated by the following tabulation on the classification of reports: —

Classification of Reports

	1929	1930
Accidents, fatal	747	761
Accidents, non-fatal	2,455	3,319
Accidents, brief reports	1,445	1,597
General reputation	3,302	3,893
Miscellaneous	6,194	7,037
Totals	14,143	16,607
Complaints filed	10,178	6,426
Garages inspected	2,897	6,010
Headlight and other violations report	48,693	37,294
Prosecutions conducted	825	594
Amount of fines	\$38,765	\$28,334

REVOCATIONS AND SUSPENSIONS

	1929	1930
Licenses suspended	12,120	11,633
Licenses revoked	4,014	3,740
Rights suspended	4,174	4,014
Certificates suspended	9	9
Certificates revoked	30,500	31,471
Certificates and licenses suspended	45	55
Certificates and licenses revoked	2,046	1,841
Certificates revoked and rights suspended	157	148
Rights in Massachusetts suspended	68	43
Totals	53,133	52,954
Resulting from investigations	16,040	12,429
Resulting from Court convictions	9,985	9,096
Resulting from Police complaints	1,755	1,856
Resulting from Judge's complaints	46	33
Resulting from State Police complaints	199	676
Resulting from Insurance cancellations	25,108	28,864
Totals	53,133	52,954

Character of Offenses

	1929	1930
Reckless and endangering	2,209	2,034
Liquor convictions	4,575	4,302
Going away after accidents	474	425
Without authority	669	734
Racing	6	2
Improper person, liquor	806	750
Improper person	5,570	5,357
Improper operation	8,297	7,661
Two overspeeds	381	362
Three overspeeds	34	24
Insurance cancellations	25,108	28,864
Insurance convictions	382	351

Character of Offenses

	1929	1930
Improper equipment, miscellaneous	1,685	412
Improper equipment, brakes	219	187
Improper equipment, lights	1,793	637
Deaths (fatal accidents)	765	772
Other offenses	160	80
Totals	53,133	52,954
Formal hearings	6,751	5,789
Court recommendations adopted: —		
Liquor	0	0
Reckless and endangering	58	79
Going away after accidents	17	14
Without authority	1	0
Totals	76	93
Persons whose licenses were suspended or revoked and who had to pass examination in order to have them returned	4,077	4,215

ANALYSIS OF COURT ABSTRACTS RECEIVED

	1929	1930
Number of courts forwarding abstracts	95	95
Total abstracts received	57,025	57,851
Number of abstracts recording convictions	46,448	41,165

Offenses

(Analysis of convictions, not including appeals)

Overspeeding	14,940	14,283
Reckless	43	21
Operating under influence of liquor	4,527	3,115
Using auto without authority	1,046	821
Endangering lives	2,781	1,885
Not stopping after causing injury	797	556
Without license	3,852	2,878
Without registration certificate	1,302	1,024
Unregistered vehicle	370	250
Improper display or no register number	268	176
Refusing to stop on signal	503	453
Unlighted lamps	1,649	688
Not signalling	34	2
Dazzling lights	1	—
Operating within 8 ft. of street car	244	202
Violation of Metropolitan Park Rules	1,393	1,096
Operating after suspension or revocation of license	534	372
Larceny	191	145
Manslaughter	1	—
Miscellaneous	3,100	3,057
Lenses not approved	68	—
No reflector	2	7
Racing	6	2
Operating after reg. certificate revoked	25	11
No rear light	372	89
Not displaying lights	156	127
Violation spot-light law	2	—
Improper lights	559	583
Brakes not as required by law	435	399

	1929	1930
Violation of Insurance Law	449	262
Not slowing down approaching pedestrian	36	39
Not slowing down at intersecting way	5,472	7,242
Violation of law of road	1,159	1,344
Perjury	—	—
Making false statements on license application falsely impersonating or conspiring to obtain a license	90	9
Loaning a license to another	5	3
Allowing intoxicated person to operate	13	5
No windshield cleaner	1	—
Attempted larceny	22	19
Totals	46,448	41,165

USED CAR SECTION (Motor Vehicle Identification)

The Used Car Section indexes cars reported stolen, lists the sales of used cars, investigates the history of cars sold bearing obliterated, defaced or changed engine and makers' numbers, and advises the owners of cars registered under the incorrect engine and makers' numbers where to find the correct numbers on the cars.

The work of this section is summarized in the following tables:

Dealers

	1929	1930
Total number of first class dealers reporting	1,304	1,327
Total number of second and third class dealers reporting	450	460
Total number making reports to this office	1,754	1,787

Reports

Approximate number of individual reports received daily	450	300
Approximate number of dealers' reports received daily	1,500	1,000

Motor Vehicles Stolen

Number stolen in Boston	4,112	4,879
Number stolen in Massachusetts (including Boston)	7,850	8,389
Number reported stolen from various sources throughout the country, including Massachusetts	21,194	25,300
Number recovered through information furnished by this office	345	344

Engine and Serial Numbers

Engine numbers assigned to cars	65	24
Certificates issued authorizing the replacement of engine numbers	1,474	847
Certificates issued authorizing the replacement of serial numbers	2,223	1,552
Certificates issued authorizing the replacement of both engine and serial numbers	75	10
Total number of authorization certificates issued	3,772	2,409

EASTERN CONFERENCE OF MOTOR VEHICLE ADMINISTRATORS

Representatives of the department attended meetings of the Eastern Conference of Motor Vehicle Administrators in May at Washington, D. C. and in October at Asheville, N. C.; also the 19th annual Safety Congress of the National Safety Council held in Pittsburgh, September 29th to October 3rd.

ANALYSIS OF RECEIPTS

The fees received for the year 1930, together with the number of certificates of registration issued in each classification and the number of licenses granted, etc., are shown in the following table: —

Certificates of registration:

Passenger cars (including taxicabs)	890,144	\$2,802,266	75
Commercial cars	114,918	1,234,055	05
Busses	3,414	81,208	25
Trailers	701	33,169	00
Motor cycles	4,642	6,600	75
Manufacturers or dealers (including repairers)	3,112	9,300	00
Manufacturers or dealers additional cars (including repairers)	20,922	62,560	00

Licenses to operate:

Original licenses	90,882 at \$2 00	—	181,764 00
Renewal licenses	891,913 at \$2 00	—	1,783,826 00
Examinations	86,792 at \$2 00	\$173,584	
Re-examinations	35,800 at \$1 00	35,800	

Total examinations	122,592		209,384 00
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Copies of certificates and licenses

furnished	44,042 at \$1 00		44,042 00
Duplicate number plates furnished	7,927 at \$1 00		7,927 00
Lens approval applications	15 at 50 00		750 00
Miscellaneous receipts, auto lists, process fees, etc.			5,765 71

Total amount of fees		\$6,462,618	51
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Motor Vehicle fees rebated (deducted)		76,523	66
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Net fees		\$6,386,094	85
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Court fines received by the Treasurer and Receiver General		657,964	06
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Total receipts credited Highway Fund account, 1930		\$7,044,058	91
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EXPENSES OF THE REGISTRY OF MOTOR VEHICLES

The cost of running the Registry of Motor Vehicles for the year 1930 was \$1,511,043.20, which was 23.6 per cent of the net fees collected. This cost, deducted from the receipts for the year, left the sum of \$5,533,015.71 available for legislative appropriation for highway work.

ANALYSIS OF EXPENDITURES FOR THE FISCAL YEAR 1930

Personal services:

Regular payroll	\$873,439	06
Overtime	16,901	80
		<hr/>
		\$890,340 86

Supplies:

Books, maps, etc.	\$1,138	39
Typewriter supplies	3,432	84
Adding machine repairs and supplies	56	51
Other supplies	4,046	02
Stationery	23,378	50
Typewriter repairs	107	19
Other repairs	800	93
		<hr/>
		\$32,960 38

Equipment and furniture:

Typewriter machines	\$3,629	81
Adding machines	1,112	54

Other machines	\$3,268 91	
Desks	1,995 76	
Bookcases, tables, etc.	3,119 71	
Filing cabinets	12,902 60	
Chairs	1,350 83	
Dictograph	1,270 92	
Partitions (Boston)	1,852 00	
Branches—Counter, safes	1,648 65	
Electric fans	251 35	
Headlight and brake testing equipment	581 51	
Uniforms	5,061 97	
		\$38,046 56
Traveling expenses:		
Officials	\$1,875 91	
Employees	39,253 89	
Aviation	6,620 07	
Automobiles (hired)	59 87	
Automobiles (owned by employees)	113,815 94	
Automobiles (owned by state)		
Maintenance of 10 automobiles	1,634 18	
Replacement of 1 automobile	356 10	
Purchase of 9 automobiles	4,849 51	
		\$168,465 47
Other services and expenses:		
Expressage	\$2,313 03	
Postage	84,202 79	
Printing		
Aviation printing	82 65	
Other reports	1,570 09	
Other printing	13,744 83	
Telephone	7,315 38	
Premium on bonds of employees	376 29	
Rent	46,350 00	
Cleaning and janitor services	1,274 00	
Rat extermination	234 00	
Labor	541 80	
Number plates	172,822 09	
Auto lists	10,000 00	
Sundries	267 72	
Towels and soap	1,054 35	
Water and ice	1,063 20	
Branch offices:		
Rent, telephone, lighting, fuel and heating	26,059 26	
Labor and services	4,979 15	
Supplies and expenses	4,641 70	
		\$378,892 33
<i>Publicity for Safety Work</i>		
Labels	\$1,737 02	
Paper	7 86	
Personal services	57 00	
Posters	267 19	
Sundries	268 53	
		\$2,337 60
		\$1,511,043 20
<i>Summary</i>		
Personal services		\$890,340 86
Expenses		618,364 74
Publicity for safety work		2,337 60
Total expenses		\$1,511,043 20

RELATING TO WATERWAYS AND PUBLIC LANDS— BOSTON HARBOR

THE COMMONWEALTH FLATS AT SOUTH BOSTON

Commonwealth Pier No. 5

During the year the Department has carried on the usual work of maintenance and miscellaneous repairs, including repairs to iron ladders, sprinkler system, heating system, Kinnear and Ogden doors, roofs, the placing of signs at the outer end of the pier and the erection and painting of flag poles.

Work under contract of Nov. 27, 1929, with William H. Ellis and Son Company for repairs to the timber platforms, was completed Feb. 8, 1930, at a contract cost of \$1,711.44.

The furnishing and laying of a two-inch wearing surface of bitulithic pavement on portions of the pier floors, chiefly on the driveway on the second floor of the west shed, was completed Dec. 28, 1929, under contract of Nov. 27, 1929, with Reynolds Bros., Inc., at a contract cost of \$6,561.25.

Additional valves and indicator posts were placed on the fresh water and fire service mains of the pier under contract of Nov. 27, 1929, with M. De Sisto Company. The work was completed Mar. 27, 1930, at a contract cost of \$1,379.96.

In December complaint was received from the White Star Line that certain portions of the west berth adjacent to the pier were too shallow for deep draft vessels of that Line. As the soundings taken indicated shoals, a contract was made on Jan. 7, 1930, with the Bay State Dredging and Contracting Company to dredge the east and west docks at the pier to a depth of 40 feet at mean low water for the full length of the docks with a width of 30 feet alongside the pier and parallel to it, at a contract price of 84.5 cents per cubic yard. The work was completed July 1, 1930, at a contract cost of \$21,346.39.

Steel office partitions were placed in Room 350, on the second floor mezzanine on the east side of the pier, under contract of Dec. 24, 1929, with E. F. Hauserman Company, Inc., at a contract price of \$1,816. This work was completed Jan. 24, 1930.

At the request of the Waldorf System, Inc., now operating the restaurant at the pier, a refreshment booth near the main entrance to the Registry of Motor Vehicles was built under contract of Jan. 7, 1930 with Carl S. Helrich, at a contract cost of \$887.74. This work was completed Feb. 1, 1930.

On Apr. 29, 1930, a contract was made with Hill and Delaney for the removing of existing doors and frames from nine doors leading to the open observatory on the second floor of the outer end of the pier, for their replacement by new doors and frames, and for the reglazing of broken lights of glass in adjacent Fenestra sash. This work was completed June 2, 1930, at a contract cost of \$1,179.

The removal of the 2-inch plaster wall above the second floor at the harbor end of the pier, the construction of a new wall of gunite slab, the repairing and waterproofing of the fenestra sash in a part of the walls at the sides and at the end, and the installation of steel plates to serve as water drips over certain windows on the sides of the pier, were authorized by contract of June 10, 1930, with Maurice M. Devine. This work was completed July 30, 1930, at a contract cost of \$5,005.26.

It has become necessary this year to provide additional offices at the pier for the use of the engineering force and to make additions and alterations to the offices occupied by the Registry of Motor Vehicles. On Aug. 26, 1930, a contract was made with Carl S. Helrich to build additions to the engineering offices at an estimated cost of \$18,067.50. This work is now nearing completion. A contract dated Sept. 2, 1930, has been made with M. Slotnick Company for additional offices and for alterations to offices at the Registry. This work was completed Nov. 21, 1930, at a contract cost of \$15,608.09.

Ramp and D Street

Work under contract of Nov. 27, 1929, with M. De Stefano and Sons, Inc., for relaying the present granite blocks on a concrete base, resetting the curbing

and relaying the brick sidewalks over the solid filled portion of the ramp connecting the Viaduct with D Street and over that portion of D Street between the ramp and Northern Avenue, was completed Apr. 11, 1930, at a contract cost of \$15,738.18.

Development of Land South of Summer Street

During the year the seven sections in Storehouse No. 1 on E Street, and sections J and K of Storehouse No. 2 on D Street, have been occupied by the Wiggin Terminals, Inc. Section H of Storehouse No. 2 is used by the Economy Grocery Stores Corporation under lease of May 24, 1929, for a term of five years from June 1, 1929. The remaining sections of Warehouse No. 2 are used by the Department.

Work under contract of Nov. 27, 1929, with Maurice M. Devine for placing a cement plaster surfacing one-half inch thick on the tile walls of sections H, J and K, was completed May 21, 1930, at a contract cost of \$1,046.89.

On May 6, 1930, a contract was made with Michael Solimando to rebuild 700 linear feet of the timber platform on the westerly side of Storehouse No. 1. The work was completed July 15, 1930, at a contract cost of \$8,166.08.

Other miscellaneous repairs have been made, including work upon the fire sprinkler system and upon the roofs of the warehouses.

Northern Avenue Sea Wall

The settlement of the stone riprap along the front of the sea wall bordering Northern Avenue easterly of the Fish Pier, made necessary this year the placing of additional riprap to protect the pile foundations of the wall. On Nov. 18, 1930, a contract was made with William Farrell to furnish and place about 600 tons of stone riprap along the toe of the wall, at a contract price of \$4.73 for each ton of riprap in place. This work is now in progress.

Grasselli Wharf

The lease to the Grasselli Chemical Company of a parcel of land and a wharf, with the adjacent dock, at South Boston, for a term of ten years, expired Apr. 30, 1930.

Under date of Oct. 1, 1930, this property and an adjacent wharf, with the dock between the wharves, were leased to the Atlantic Radio and Marine Company, Inc., until Mar. 31, 1935, with an option of renewal for a further period of five years at the expiration of the present term.

A contract was made Oct. 28, 1930, with Maurice M. Devine for furnishing labor and equipment for painting by spraying under compressed air the exterior of the piershed on this wharf, and the exterior of the garage under the viaduct, for the lump sum of \$595. This work is now in progress.

Staples Wharf

The wharf belonging to the Commonwealth at South Boston, formerly leased to the Staples Coal Company, has been for some time in need of repair. During the year negotiations begun by the Boston Fish Market Corporation for the use of the premises made it advisable to put the property into better condition.

A contract was made on July 15, 1930, with the J. S. Packard Dredging Company for dredging the westerly dock to a depth not less than 16 feet at mean low water at the following prices: for dredging and disposing of the dredged material, 50 cents per cubic yard scow measurement; for removing and disposing of boulders, \$15 per cubic yard. This work was completed on Aug. 29, 1930, at a contract cost of \$3,040.50.

On July 15, 1930, a contract was made also with the Bay State Dredging and Contracting Company for furnishing, placing and fastening fender logs on the west side of the wharf, at the following prices: for furnishing, preparing and placing floating fender logs, \$3.53 per linear foot of fender log in place; for furnishing and attaching each chain complete, \$52 for each chain placed in the work. This work was completed Sept. 11, 1930, at a contract cost of \$1,426.75.

Proposals were received Nov. 25, 1930, for replacing and fitting fender piles,

main piles, girder caps and stringers and for repairs to the deck planking at this pier. No contract has yet been executed for this work.

THE COMMONWEALTH FLATS AT EAST BOSTON

Aircraft Landing Field

The greater part of the area reclaimed by the Commonwealth at East Boston is now occupied by the City of Boston as an airport. On Aug. 10, 1928, under authority of Chapter 64 of the Resolves of that year, the Department leased to the City approximately 5,717,000 square feet of land for this purpose. The use of an additional area of 4,210,760 square feet was authorized by a lease executed July 14, 1930, in accordance with the provisions of Chapter 53 of the Resolves of 1930.

The use of these areas by the City is, however, subject to certain rights of occupancy and use granted by previous agreements to the Federal Government. The lease to the War Department under date of June 3, 1922, has been renewed to June 30, 1931, in accordance with the terms of a supplementary agreement made Dec. 27, 1926, extending the renewal option to June 30, 1937, by yearly renewals. To the Navy Department a lease of June 16, 1924, gives the option of continuing by annual renewals the use of its present area to June 30, 1932.

Reclamation of Flats

The work of dredging and filling at East Boston under contracts made by the Department for the purpose of reclaiming flats has been in abeyance since 1923. Between that time and Nov. 30, 1930, approximately 1,990,000 cubic yards of material dredged from various locations in the harbor have been deposited in the receiving basin. In the year ending Nov. 30, 1930, approximately 160,000 cubic yards were deposited upon flats northerly of Governor's Island. The Commonwealth has now reclaimed about 150 acres of land at East Boston.

During the year conferences have been held with the city authorities and with other organizations interested in the extension of the reclamation work for the purpose of making a larger area available for the Airport. On account of the large expenditure involved the Department has been unable to make definite plans in the matter. The city of Boston under authority of a license granted in October, has, however, begun filling an area in tide water adjacent to the easterly boundary of the Airport.

Commonwealth Pier No. 1, East Boston

During the year the east and west docks of the pier have been used by the Eastern Steamship Lines, Inc., for their steamers not in service.

No major repairs to the pier have been needed this year.

AREAS IN TIDE WATER CEDED TO FEDERAL GOVERNMENT

Three tracts of tide water land of the Commonwealth in Boston Harbor were conveyed by the Department under date of October 1, 1930, to the Superintendent of Lighthouses to be used for the erection and maintenance of lights as aids to navigation. An area at Pig Rock, near the entrance to Weymouth Fore River in Hull; a tract at Peddock's Island Channel Light No. 2, near Sunken Ledge Beacon, in Hull, and one at Fore River Channel Light No. 2A on Weymouth Fore River, Weymouth, were ceded by this action to the Federal Government.

BIRD ISLAND ANCHORAGE BASIN

During the year further repairs became necessary to dolphins at this basin. On Mar. 18, 1930, a contract was made with A. A. Hersey and Son Company to replace old and broken oak piles in dolphins "A" and "B" and to rebind the two dolphins with wire rope, at the following contract prices: for removing old piles and furnishing, driving and fitting new oak piles, including all incidental work, \$74 for each pile removed and replaced; for furnishing and binding each dolphin with wire rope, including all incidental work, \$33.50 for binding each dolphin. This work was completed May 14, 1930, at a contract cost of \$733.

GRAND JUNCTION WHARVES OR CUNARD DOCKS

Early in the year complaints were received by the Department regarding shoal spots in the area between the Cunard docks and the main ship channel in Boston Harbor, and requests were made for dredging to deepen the area.

On July 15, 1930, a contract was made with the Bay State Dredging and Contracting Company to dredge the area between the Cunard docks and the main ship channel to a depth of 35 feet at mean low water, at the following prices: for dredging and disposing of dredged material, 44.5 cents per cubic yard, scow measurement; for removing and disposing of boulders, \$20 per cubic yard. This work is now in progress.

INDIA, CENTRAL AND LONG WHARVES

Hearing was held Jan. 29, 1930, upon a petition of the Eastern Steamship Lines, Inc., for dredging the area between the main ship channel in Boston Harbor and wharves used by the steamships of the petitioner. In the following month the owners of Lewis Wharf, Long Wharf and Commercial Wharf asked for dredging between these wharves and the main ship channel. The expenditure involved was too large to allow the Department to carry out more than a part of the work requested.

On July 15, 1930, a contract was made with the Bay State Dredging and Contracting Company to dredge an area between India, Central and Long Wharves and the main ship channel to a depth of 25 feet at mean low water, at the following prices: for dredging and disposing of the dredged material, 36 cents per cubic yard, scow measurement; for removing and disposing of boulders, \$20 per cubic yard. This work is now in progress.

DREDGING OPPOSITE U. S. IMMIGRATION STATION

In March the Department received a request from the Bethlehem Shipbuilding Corporation, Ltd., for dredging southerly of the Simpson Works at East Boston to remove a shoal area in front of the U. S. Immigration Station. This shoal, a part of the westerly end of Bird Island Flats, interfered with the safe and convenient access of shipping to the floating dry dock of the corporation.

On Sept. 2, 1930, a contract was made with the Bay State Dredging and Contracting Company to dredge this shoal area to a depth of 18 feet at mean low water for a distance of approximately 800 feet and a width of 150 feet, at the following prices: for dredging and disposing of the dredged material, 55 cents per cubic yard, scow measurement; for removing and disposing of boulders, \$20 per cubic yard. This work is now in progress. Toward the cost of the dredging a contribution of \$10,000 was made by the Bethlehem Shipbuilding Corporation, Ltd.

HOUGH'S NECK, QUINCY

Hearing was held on Jan. 29, 1930, upon the petition of the Mayor of Quincy, and others, for dredging a channel with basins at its inner end, in front of the Yacht Clubhouse and the public landing at Hough's Neck.

On Nov. 25, 1930, a contract was made with the Bay State Dredging and Contracting Company to dredge a channel 60 feet wide and about 1,200 feet long to a depth of 8 feet at mean low water, a basin approximately 350 feet long and 150 feet wide to a depth of 8 feet at mean low water, and a basin 300 feet long and 150 feet wide to a depth of 6 feet at mean low water. The contract prices for the work are: for dredging and disposing of dredged material, 49 cents per cubic yard, scow measurement; for removing and disposing of boulders, \$20 per cubic yard.

Toward the cost of this dredging a contribution of \$4,000 has been made by the city of Quincy. The work is now in progress.

NEPONSET RIVER, BOSTON

A contract was made on Nov. 5, 1930, with the Bay State Dredging and Contracting Company to dredge an area in Neponset River in front of property of

the Frost Coal Company to a depth of 10 feet at mean low water, and a channel from the northeasterly end of the area to a depth of 13 feet at mean low water. The contract prices for the work are: for dredging and disposing of dredged material, 74 cents per cubic yard, scow measurement; for removing and disposing of boulders, \$20 per cubic yard. Dredging under this contract has not yet begun.

SAVIN HILL BAY AND DORCHESTER BAY DREDGING

Dredging under contract of July 16, 1929, with the Trimount Dredging Company was completed July 10, 1930, at a contract cost of \$116,967.20.

In carrying out the work in accordance with the provisions of Chapter 317 of the Acts of 1929, a steep bank was left by the hydraulic dredge at Coulter's Beach on Freeport Street. As this created a condition dangerous for children using the beach, it was necessary to fill the depressions and provide an even slope at this shore.

On Nov. 25, 1930, a contract was made with Henry N. Worthington to furnish and place about 3,000 cubic yards of sand or sand and gravel at Coulter's Beach at a contract price of \$1.20 for each cubic yard placed. This work is now in progress.

The statute authorizing the dredging provides that of the appropriation of \$147,500 made for the work, the sum of \$28,125 is to be paid from the Port of Boston receipts, and the remainder, considered a part of the cost of the Old Colony Boulevard, is to be divided so that \$59,687.50 is paid from the Highway Fund and an equal amount assessed upon the cities and towns of the Metropolitan District.

TOWN RIVER, QUINCY

The work of dredging in Town River under contract of Sept. 17, 1929, with the Bay State Dredging and Contracting Company was completed Mar. 7, 1930, at a contract cost of \$54,325.81. Toward this cost a contribution of \$14,750 was made by the city of Quincy before the work began. During the progress of the dredging additional contributions were made of \$900 by Hester K. Butts and of \$400 by F. D. Lawley, Inc.

WEIR RIVER, HULL

Hearing was held Jan. 29, 1930, upon the petition of the Selectmen of Hull for the deepening of the channel in Weir River from Hingham Bay to the wharf of the Nantasket Beach Steamboat Company.

On Apr. 1, 1930, a contract was made with the Bay State Dredging and Contracting Company to dredge the channel in the river to a depth not less than 15 feet at mean low water from a point opposite the westerly end of World's End to the basin at the steamboat wharf of the Nantasket Beach Steamboat Company, to provide a channel 160 feet wide throughout to the full depth of 15 feet at mean low water. The contract prices for the work were: for dredging and disposing of dredged material, 45 cents per cubic yard, scow measurement; for removing and disposing of boulders, \$20 per cubic yard. This dredging is not yet completed. Toward the cost of the work a contribution of \$20,000 was made by the town of Hull.

EXCHANGE OF AREAS BETWEEN THE CITY OF BOSTON AND THE COMMONWEALTH

Under the provisions of Chapter 264 of the Acts of 1928, an exchange of land and flats at Marine Park, South Boston, was made by deed of May 21, 1930, from the Commonwealth and deed of May 27, 1930, by the City. This exchange, which has been under negotiation for some years, gives the Commonwealth better access for industrial development to its land southerly of the Reserved Channel and between Marine Park and Castle Island, and gives to the City access to Castle Island and opportunity to extend the development of its park property.

The deed from the Commonwealth grants also to the City portions of Fargo and E Streets at South Boston, upon condition that the City will lay out, construct and pave the areas conveyed.

The Department, acting under authority of Section 2 of Chapter 371 of the Acts of 1929, conveyed to the city of Boston by another deed of May 21, 1930,

two parcels of land at Nashua and Leverett Streets, Boston, for playground, bathing or similar purposes.

These deeds were exchanged June 25, 1930, with an agreement dated May 27, 1930, by the Mayor of Boston regarding the work in E and Fargo Streets, and with a check for \$25,000 from said City to the Commonwealth.

RIVERS, HARBORS, TIDE WATERS AND FORESHORES OUTSIDE OF BOSTON HARBOR

For the improvement of rivers, harbors, tide waters and foreshores outside of Boston Harbor, in accordance with the provisions of section 11, chapter 91, General Laws, an appropriation of \$175,000 was made during 1930, with the following condition:—

“provided, that all expenditures made for the protection of shores shall be upon condition that at least fifty per cent of the cost is covered by contributions from municipalities or other organizations and individuals and that in the case of dredging channels for harbor improvements at least twenty-five per cent of the cost shall be so covered.”

An appropriation of \$40,000 was also available during the year for the maintenance of structures, and for repairing damages along the coast line or river banks of the Commonwealth, and for the removal of wrecks and other obstructions from the tide waters and great ponds.

Petitions were filed with the Department during the year for surveys and improvements in the following localities: Bass River, Dennis and Yarmouth; Brant Rock, Marshfield; Cedar Point, Scituate; Centerville River, Barnstable; Cohasset Harbor, Cohasset; Connecticut River, Deerfield; Falmouth Heights, Falmouth; Herring River, Harwich; Lake Anthony, Oak Bluffs; Lake Tashmoo, Tisbury; Manchester Harbor, Manchester; Marion Harbor, Marion; Merrimack River, Newburyport; Phinney's Harbor, Bourne; Plymouth Harbor, Plymouth; Rock Harbor, Orleans; Rockport Harbor, Rockport; Scituate Harbor, Scituate; Waquoit Bay, Falmouth and Mashpee.

Public hearings have been held, certain estimates of cost made, but no work has been done to carry out the improvements petitioned for in Cedar Point, Scituate; Cohasset Harbor, Cohasset; Connecticut River, Deerfield; Lake Anthony, Oak Bluffs; Lake Tashmoo, Tisbury; Marion Harbor, Marion; Merrimack River, Newburyport; Phinney's Harbor, Bourne; Rockport Harbor, Rockport; Waquoit Bay, Falmouth and Mashpee.

Information relating to work previously done in various rivers and harbors of the Commonwealth may be found in the annual reports of the Board of Harbor and Land Commissioners, the Commission on Waterways and Public Lands, the Division of Waterways and Public Lands of the Department of Public Works and in the tables of the Appendix accompanying the present report. These tables show localities, character of work, appropriations and expenditures by the Commonwealth, and certain appropriations and expenditures by the Federal Government.

An account of work done during the year 1930 for the improvement of rivers, harbors, tide waters and foreshores outside of Boston Harbor, follows:

ALLEN'S HARBOR, HARWICH

Hearing was held on Jan. 29, 1930, upon the petition of E. Donald Dodge for dredging at the entrance to Allen's Harbor. At this hearing the Selectmen explained that an article had been inserted in the town warrant for the annual meeting to provide for a contribution toward the cost of dredging and of placing riprap at the northerly end of the jetty.

An examination by the engineer showed the necessity for repairs and for further protective work. On Nov. 12, 1930, a contract was made with Joseph W. Nickerson to furnish materials and to construct a timber fence about 100 feet long, to furnish and place about 70 tons of stone riprap in front of the timber fence, and about 50 yards of sand as backfilling against said fence, and to place about

400 tons of stone riprap along the easterly bank northerly of the east jetty for a distance of about 250 feet. The contract prices for this work are: for each linear foot of fence measured in place, including the furnishing of all labor and materials and the performing of all excavation, backfilling and incidental work, the sum of \$6.00; for each ton of riprap furnished and placed, including all grading and incidental work, the sum of \$4.65.

Toward the cost of this work a contribution of \$1,600 has been made by the town of Harwich. The work is now in progress.

Amount expended during the year, \$267.55. Total expenditure to Dec. 1, 1930, \$26,733.27.

ANNISQUAM RIVER, GLOUCESTER

During May a complaint was received from the Gloucester Chamber of Commerce concerning an obstruction encountered by vessels in mid channel north of the Boston and Maine Railroad Bridge. Investigation showed that a boulder about 6 feet long, 3 feet wide, and 4½ feet high had in some way been deposited in the channel after the completion of the dredging in 1929.

On June 20, 1930, a letter contract was made with Hall Brothers for the removal of the boulder. The work was completed July 9, 1930, at a contract cost of \$400.

Amount expended during the year, \$523.49. Total expenditure to Dec. 1, 1930, \$171,498.69.

BASS RIVER, DENNIS AND YARMOUTH

The work of building an extension to the easterly jetty at Bass River, under contract of Nov. 19, 1929, with the Bay State Dredging and Contracting Company, was completed May 3, 1930, at a contract cost of \$24,318.45.

On July 15, 1930, a contract was made with the Bay State Dredging and Contracting Company for dredging a channel 100 feet wide on the bottom and 6 feet deep at mean low water from the 6-foot contour in Nantucket Sound through the outer bar at the entrance to Bass River, for removing certain bars and shoals in the channel from the jetties to a point near the first highway bridge, and for dredging two anchorage basins on the Dennis shore of said river, at the following contract prices: for dredging channel and shoals and disposing of dredged material, 58 cents per cubic yard, scow measurement; for removing and disposing of boulders, \$20 per cubic yard; for dredging anchorage basins and disposing of dredged material, 55 cents per cubic yard, scow measurement.

This work was completed Oct. 16, 1930, at a contract cost of \$39,249.28.

Contributions toward the cost of these projects have been made as follows:

Town of Dennis	\$10,000 00
Town of Yarmouth	10,000 00
Individuals	95 00

This dredging has provided a channel 100 feet wide, 1,000 feet long and 6 feet deep at mean low water from the entrance of Bass River into Nantucket Sound, has removed four shoals to a depth of 6 feet at mean low water from the river, and has given two anchorage basins on the Dennis shore in the upper part of the river below the highway bridge. These basins within the six foot contour have a total area of 4.39 acres.

Amount expended during the year, \$59,564.85. Total expenditure to Dec. 1, 1931, \$176,526.08.

BRANT ROCK, MARSHFIELD

The storm of Oct. 22 and 23, 1930, destroyed timber bulkheads and seriously weakened other protective work constructed by owners of property along the section of shore forming a promontory into the bay northerly of the sea wall built by the Commonwealth in 1924. To prevent further destruction and disastrous erosion of the shore during the winter, it became necessary to undertake some work at once.

A contract was accordingly made on Nov. 25, 1930, with Philip B. Oakman to

place about 300 tons of heavy stone riprap and about 100 tons of stone chips to protect approximately 125 linear feet of bank and timber bulkhead, at a contract price of \$3.85 per ton for stone in place. This work is now in progress.

Amount expended during the year, \$1,671.58. Total expenditure to Dec. 1, 1930, \$26,427.66.

CENTERVILLE RIVER, BARNSTABLE

Hearing was held on Jan. 29, 1930, upon a petition of the Selectmen of Barnstable, and others, for a survey and for the dredging of a channel from Gaff's Bridge eastward to a point near the Centerville Beach Club.

On July 22, 1930, a contract was made with the Trimount Dredging Company for dredging by hydraulic process a channel 5 feet deep at mean low water, 50 feet wide on the bottom and about 4,700 feet long, in Centerville River at Centerville, at the following contract prices: for dredging the channel and disposing of excavated material upon the marsh, upland and beach in specified locations, including the construction of necessary dikes and sluices, 35 cents per cubic yard measured in place; for removing and disposing of boulders, \$10 per cubic yard.

Toward the cost of this dredging a contribution of \$10,000 was made by the town of Barnstable, and of \$4,211.50 by individuals interested. No work has begun under this contract.

Amount expended during the year, \$679.37. Total expenditure to Dec. 1, 1930, \$8,282.59.

DUXBURY HARBOR, DUXBURY

Hearing was held Jan. 29, 1930, upon the petition of the Selectmen of Duxbury, and others, for dredging to remove shoals and to enlarge the present channel and basin in Duxbury Harbor.

On Mar. 18, 1930, a contract was made with the Bay State Dredging and Contracting Company for dredging an area in Duxbury Bay, a portion to a depth of 6 feet at mean low water and a part to a depth of 8 feet at mean low water. The contract prices for this work were: for dredging and disposing of the dredged material, 52 cents per cubic yard, scow measurement; for removing and disposing of boulders, \$20 per cubic yard. Work was completed May 23, 1930, at a contract cost of \$48,084.64. By this dredging the area of the anchorage basin in this harbor has been increased to a total of 10.8 acres.

Toward the cost of the work a contribution of \$25,000 was made by individuals and organizations interested.

Amount expended during the year, \$49,837.76. Total expenditure to Dec. 1, 1930, \$92,653.35.

FALMOUTH INNER HARBOR

Hearing was held Jan. 29, 1930, upon the petition of the Selectmen of Falmouth for dredging in Falmouth Inner Harbor.

On May 13, 1930, a contract was made with William E. Burke for dredging about 10,000 cubic yards in the entrance channel to this harbor, to make the channel 100 feet wide on the bottom and 10 feet deep at mean low water and the basin area 6 feet deep at mean low water. The contract prices for the work were: for dredging and disposing of dredged material, 45 cents per cubic yard, scow measurement; for removing and disposing of boulders, \$20 per cubic yard. The dredging was completed May 25, 1930, at a contract cost of \$4,230.90. Toward the cost of the work a contribution of \$2,500 was made by the town of Falmouth.

As the condition of the jetties at this harbor made repairs necessary, the work was carried out under three contracts. In accordance with a letter contract of May 16, 1930, with William E. Burke, about 50 tons of heavy stone riprap were placed in the westerly jetty at a contract cost of \$475.

Under a letter contract of the same date with Arthur K. Finney about 230 tons of stonechips were placed back of the timber fence easterly of the east jetty at a contract cost of \$1,329.13.

In July another letter contract was made with Arthur K. Finney to place a

timber capping upon the timber fence. The work was completed July 31, 1930, at a contract cost of \$75.

Amount expended during the year, \$6,622. Total expenditure to Dec. 1, 1930, \$150,396.26.

FALMOUTH SHORE PROTECTION

A petition was received in February from the Park Commissioners of Falmouth for the construction of a stone jetty extending seaward from the concrete sea wall built by the Commonwealth along Grand Avenue at Falmouth Heights.

A contract was made on Apr. 15, 1930, with Arthur K. Finney for building a stone jetty and placing riprap in front of an existing concrete wall at Falmouth Heights, at the following contract prices: for furnishing and placing heavy stone and granite chips in jetty, \$4.79 for each ton of 2,000 pounds; for furnishing and placing heavy stone riprap in front of the existing concrete sea wall, \$4.79 for each ton of 2,000 pounds. This work was completed July 15, 1930, at a contract cost of \$11,965.76. Toward this cost a contribution of \$5,987.50 was made by the town of Falmouth.

Amount expended during the year, \$12,704.58. Total expenditure to Dec. 1, 1930, \$70,667.71.

GLOUCESTER INNER HARBOR

Hearing was held on Jan. 29, 1930, upon the petition of the Gloucester Maritime Association, and others, for dredging in Gloucester Inner Harbor.

On May 6, 1930, a contract was made with the Bay State Dredging and Contracting Company for dredging a channel 100 feet wide on the bottom to a depth of 17 feet at mean low water in this harbor, at the following contract prices: for dredging channel and disposing of dredged material, 39.8 cents per cubic yard, scow measurement; for removing and disposing of boulders, \$20 per cubic yard. This dredging was completed Oct. 7, 1930, at a contract cost of \$29,228.72. Toward the cost of the work a contribution of \$7,500 was made by the city of Gloucester.

Amount expended during the year, \$29,792.06. Total expenditure to Dec. 1, 1930, \$148,786.71.

GREEN HARBOR, MARSHFIELD

Hearing was held on Jan. 29, 1930, upon the petition of the Selectmen of Marshfield, and others, for dredging and for repairs to the jetties at Green Harbor.

The estimated cost of the work requested would require so large a contribution from the town, that legislation was necessary. By Chapter 199 of the Acts of 1930, the town was authorized to borrow not exceeding \$40,000 to pay its share of the cost of dredging and filling certain shore areas and constructing other necessary works at Green Harbor to improve the harbor for navigation and reclaim land for use as an aviation field. At a special town meeting held Sept. 5, 1930, the town voted to accept the provisions of the Act.

The funds necessary to carry out the entire project have not been available this year. The condition, however, of the westerly jetty at the harbor entrance made it necessary to undertake some work for its protection before the coming of the winter storms. On Oct. 14, 1930, a contract was made with Owen W. Duffy Company to furnish material and build a timber fence about 660 feet long on the westerly side of the westerly jetty at the entrance to Green Harbor, at a contract price of \$5.50 for each linear foot of fence measured in place, including the furnishing of all labor and materials and the performing of all excavation, back-filling and incidental work. This work is now in progress.

Toward the cost of the work a contribution of \$2,500 has been made by the town of Marshfield.

Amount expended during the year, \$2,404.91. Total expenditure to Dec. 1, 1930, \$79,036.95.

GUN ROCK-GREEN HILL SEA WALL, HULL

The work under contract of Nov. 19, 1929, with Bradford Weston for the construction of three spur jetties in front of the sea wall, was completed Dec. 17, 1929, at a contract cost of \$520.80.

Amount expended during the year, \$578.87. Total expenditure to Dec. 1, 1930, \$38,485.08.

HERRING RIVER, HARWICH

Hearing was held Jan. 29, 1930, upon the petition of the Selectmen of Harwich for dredging and for jetty extension in Herring River.

On Aug. 26, 1930, a contract was made with the Trimount Dredging Company for dredging a channel 60 feet wide on the bottom and 6 feet deep at mean low water from the 6-foot contour in Nantucket Sound to the steel highway bridge over Herring River. The contract prices for this work are: for dredging channel and disposing of excavated material on the marsh and flats adjacent to the work, including the construction of necessary dikes and the removal of a section of the lower county bridge, 58 cents per cubic yard; for removing and disposing of boulders, \$20 per cubic yard. This work is now in progress. Toward the cost of the dredging a contribution of \$13,000 was made by the town and one of \$12,600 by individuals interested.

While this dredging was being carried on a request was made to the Department for the excavation of an anchorage basin below the Lower County Bridge. On Nov. 25, 1930, a contract was made with the Trimount Dredging Company to dredge an anchorage basin in the location desired to a depth of 6 feet at mean low water, at the following contract prices: for dredging and disposing of the dredged material on marsh and flats adjacent to the work, including the construction of necessary dikes, 40 cents per cubic yard; for removing boulders, \$20 per cubic yard. This work is now in progress. Toward the cost of the dredging a contribution of \$4,000 was made by William H. Doble.

Amount expended during the year, \$27,820. Total expenditure to Dec. 1, 1930, \$86,001.14.

MANCHESTER HARBOR, MANCHESTER

Hearing was held on Jan. 29, 1930, upon the petition of the Selectmen of Manchester for dredging to deepen the inlet just north of Tucks Creek in Manchester Harbor.

On Apr. 15, 1930, a contract was made with the Bay State Dredging and Contracting Company for dredging an area in this harbor to a depth of 6 feet at mean low water, at the following contract prices: for dredging and disposing of dredged material, 43 cents per cubic yard, scow measurement; for removing and disposing of boulders, \$20 per cubic yard. This work, comprising the excavation of an anchorage basin of 1.7 acres, was completed June 14, 1930, at a contract cost of \$11,930.89. Toward the cost of the dredging a contribution of \$6,500 was made by the town of Manchester.

Amount expended during the year, \$12,518.91. Total expenditure to Dec. 1, 1930, \$176,295.48.

NEW BEDFORD STATE PIER

The larger portion of this pier has been, since September, 1927, under lease to the Lamport Manufacturing Supply Company, Inc.

The lease provides for the use by the Company of a specified portion of the pier for a period of ten years beginning Sept. 1, 1927, at a rental of \$6,000 per year for the first five years, and of \$10,000 per year for the five years following. The Company agrees by the terms of the lease to provide reasonable facilities for vessels desiring to use the present unenclosed area of the pier for water-borne commerce, as well as reasonable accommodation for loading and unloading cargo. The charges made for such uses of the pier are to be those established by the Department, effective since July 15, 1925.

During the year minor repairs to buildings on the pier have been made, comprising the replacing of galvanized iron flashing on a portion of the timber shed with copper flashing and the repairing of the deck of timber platforms.

Two transportation companies have occupied space this year in the Immigration Shed, the only building in the pier not included in the lease to the Lamport Manufacturing Supply Company, Inc.

Amount expended for operation and maintenance during the year, \$2,474.46.

Income during the year, \$7,621.58. Total expenditure for operation and maintenance to Dec. 1, 1930, \$53,188.55.

COMMONWEALTH PROPERTY AT PLYMOUTH

An appropriation of \$6,000 was made by the Legislature this year for the maintenance and repair of property at Plymouth acquired by the Pilgrim Tercentenary Commission and placed under the jurisdiction of the Department by vote of the Governor and Council on July 17, 1924.

The work of replacing the timber deck of the State Pier was continued under a letter contract of Apr. 1, 1930, with George W. Starbuck by which labor and equipment were furnished by the contractor and material by the Commonwealth. The contract was completed May 3, 1930, at a cost of \$821.95 for labor and equipment.

Under a letter contract of Apr. 9, 1930, with Arthur K. Finney oak fender piles were driven at the State Pier at a contract cost of \$385.70.

On Nov. 25, 1930, a contract was made with Domenik Romano to furnish materials and to build three concrete walks and a gravel walk, and to set about 430 linear feet of straight granite curbing and about 72 linear feet of curved granite curbing on the driveway leading to the State Pier. The contract prices for this work are: for straight granite curbing set in place, \$2.05 per linear foot; for curved granite curbing set in place, \$2.25 per linear foot; for concrete walk complete in place, \$2.25 per square yard; for gravel walk complete in place, \$1.25 per square yard.

Amount expended during the year, \$4,609.23. Total expenditure to Dec. 1, 1930, \$35,687.08.

PLYMOUTH HARBOR, PLYMOUTH

Hearing was held Jan. 29, 1930, upon the petition of the Selectmen of Plymouth, and others, for dredging in Plymouth Harbor.

On May 20, 1930, a contract was made with the Bay State Dredging and Contracting Company for dredging an area in Plymouth Harbor to a depth of 6 feet at mean low water at the following contract prices: for dredging and disposing of the dredged material, 51 cents per cubic yard, measured in scows; for removing and disposing of boulders, \$20 per cubic yard. Work was completed Nov. 20, 1930, at a contract cost of \$39,810.46. Under this contract an anchorage basin of 5.7 acres was excavated. Toward the cost of the dredging a contribution of \$16,500 was made by the town of Plymouth and one of \$4,500 by the Pilgrim Yacht Club.

Amount expended during the year, \$35,868.73. Total expenditure to Dec. 1, 1930, \$318,555.35.

PROVINCETOWN TERCENTENARY COMMISSION

During the year the land at Provincetown acquired by the Provincetown Tercentenary Commission and placed under the control of the Department June 23, 1926, has been cared for from funds appropriated for the use of the Province Lands. One employee of the Department has been kept at work during the summer to maintain this park in proper condition.

Under date of Mar. 11, 1930, the Department conveyed by deed to the town of Provincetown for highway purposes four parcels of land acquired by the Provincetown Tercentenary Commission.

ROCK HARBOR, ORLEANS

Hearing was held Jan. 29, 1930, upon a petition of Charles R. Richardson, and others, for the removal of shoals and for dredging to extend the present entrance channel to Rock Harbor.

An examination made by the engineer indicated that the shoaling could be checked by removing certain excavated material placed upon the bank of the creek during previous dredging. On Apr. 2, 1930, a letter contract was made with Frank H. Barry for the removal of a part of this material and its distribution over the marsh. This work was completed April 30, 1930, at a contract cost of \$539.25.

Amount expended during the year, \$596.55. Total expenditure to Dec. 1, 1930, \$20,667.51.

SCITUATE HARBOR, SCITUATE

Hearing was held Jan. 29, 1930, upon the petition of the Selectmen of Scituate, and others, for the dredging of anchorage basins in Scituate Harbor.

On Apr. 29, 1930, a contract was made with the Bay State Dredging and Contracting Company to dredge two areas in Scituate Harbor, one to a depth of 6 feet at mean low water, the other to a depth of 12 feet at mean low water, at the following contract prices: for dredging and disposing of dredged material, 53 cents per cubic yard, scow measurement, for one area, and 75 cents per cubic yard, scow measurement, for the other; for removing and disposing of boulders, \$20 per cubic yard. At the completion of the work on Aug. 7, 1930, the area of the anchorage basin had been increased 3.19 acres and the width of the entrance channel increased about 100 feet, at a contract cost of \$39,117.99. Toward the cost of the dredging a contribution of \$20,000 was made by the town of Scituate.

Amount expended during the year, \$40,217.16. Total expenditure to Dec. 1, 1930, \$205,865.94.

SCITUATE SEA WALLS

An examination in February of the sea walls at the Glades at North Scituate, indicated that the erosion of the beach during the winter had made necessary the placing of stone riprap along the toe of the wall. Under letter contract of Feb. 19, 1930, with Frank H. Barry this work was done at a contract cost of \$1,203.42.

Amount expended during the year, \$1,379.92.

WEST BAY, BARNSTABLE

Complaints were received by the Department in May regarding shoals in the entrance channel to West Bay. On July 11, 1930, a letter contract was made with the Bay State Dredging and Contracting Company for dredging about 4,500 cubic yards of material from the entrance channel, at a contract price of 58 cents per cubic yard. This dredging was completed July 22, 1930, at a contract cost of \$4,326.22. Toward this cost contributions amounting to \$1,128.07 were made by individuals interested.

Amount expended during the year, \$4,585.73. Total expenditure to Dec. 1, 1930, \$114,517.57.

WEST HARWICH SHORE PROTECTION

Work under contract of Oct. 29, 1929, with Edward E. Crowell and Isaiah Kelley for constructing about 2,250 linear feet of wire fence with spur jetties along the beach at West Harwich, was completed Feb. 24, 1930, at a contract cost of \$5,728.10.

Because of erosion during the spring along the beach at the location of the wire fence, about 230.95 tons of stone chips were placed back of the structure to check further damage. The cost of this work was \$543.19.

Amount expended during the year, \$6,934.89. Total expenditure to Dec. 1, 1930, \$20,428.30.

WILD HARBOR, FALMOUTH

Hearing was held Jan. 29, 1930, upon the petition of Edward N. Dahlborg, and others, for dredging in Wild Harbor.

On May 6, 1930, a contract was made with the Trimount Dredging Company for redredging the entrance channel and anchorage basin in Wild Harbor to a depth of 6 feet at mean low water and the enlargement of the basin

on the northerly and westerly sides, at the following contract prices: for dredging and disposing of the material on the shore, 57 cents per cubic yard, measured in situ; for removing and disposing of boulders, \$20 per cubic yard. Toward the cost of this dredging a contribution of \$5,000 was made by the town of Falmouth and a contribution of \$5,000 by organizations and individuals interested.*

The work under this contract is now in progress and will provide, when completed, an anchorage basin of 2.7 acres with a depth of at least 6 feet at mean low water.

Amount expended during the year, \$13,971.81. Total expenditure to Dec. 1, 1930, \$50,351.36.

WITCHMERE HARBOR, HARWICH

A survey of the entrance channel at Witchmere Harbor indicated considerable shoaling between the jetties near the outer end of the structures. On Nov. 5, 1930, a contract was made with William E. Burke for dredging the entrance channel to this harbor to a depth of 6 feet at mean low water and a width of 60 feet on the bottom, at the following contract prices: for dredging and disposing of the dredging material, 60 cents per cubic yard, scow measurement; for removing and disposing of boulders, \$20 per cubic yard. This work is now in progress.

Amount expended during the year, \$253.44. Total expenditure to Dec. 1, 1930, \$55,795.13.

MISCELLANEOUS

GREAT PONDS

Jurisdiction over great ponds belonging to the Commonwealth was conferred upon the Board of Harbor and Land Commissioners by chapter 318, Acts of 1888. This act applies to ponds containing in their natural state ten or more acres of land. Authority to sell and convey or lease, subject to the approval of the Governor and Council, any of the islands owned by the State in great ponds was later given by chapter 379, Acts of 1904, now section 2, chapter 91, General Laws.

During the year the Department has considered matters relating to: Alum Pond, Stockbridge; Bateman's Pond, Concord; Benson's Pond, Middleborough; Billington Sea, Plymouth; Cedar Dell Pond, Dartmouth; Cedar Pond, Carver; Coonamesset Pond, Falmouth; Crosman's Pond, Kingston; Dunham Pond, Carver; Forest Lake, Methuen; Great Herring Pond, Plymouth; Great Pond, Otis; Harmon Pond, New Marlborough; Lake Archer, Wenham; Lake Mahkeenac or Stockbridge Bowl, Stockbridge; Lake Massapoag, Sharon; Lake Nippenicket, Bridgewater; Lake Tashmoo, Tisbury; Lake Winthrop, Holliston; Larkum Pond, Otis; Little Alum Pond, Brimfield; Little Sandy Pond, Pembroke; Lovell's Ponds, Barnstable; Manchaug Lake, Douglas and Sutton; Maquan Pond, Hanson; Mary's Pond, Rochester; North Pond, Hopkinton and Milford; Nuttings Lake, Billerica; Oyster Pond, Edgartown; Round Pond, Falmouth; Skinequit Pond, Harwich; Spectacle Pond, Lancaster.

During the year, surveys of the following great ponds have been made: —

MANCHAUG LAKE, DOUGLAS-SUTTON

Area at time of survey	300.37 acres
Area of natural pond	193.36 acres
Area of flowed pond	412.3 acres

The area of this pond is divided between the two towns as follows: —

103.57 acres in Douglas
89.79 acres in Sutton
Maximum depth, 30.9 feet

Harmon Pond, New Marlborough

Natural pond area	23.06 acres
Maximum depth	40.0 feet

North Pond, Hopkinton-Milford

Area of flowed pond	230 acres
Area of natural pond	48.6 acres
Maximum depth	16.3 feet

Flax Pond, Yarmouth

Natural pond area	10.04 acres
Maximum depth	31.7 feet

Eagle Pond, Dennis

Area of natural pond	9.5 acres
Maximum depth	28.2 feet

Amount expended during the year, \$2,780.87. Total expenditure to Dec. 1, 1930, \$16,653.

ACCESS TO GREAT PONDS

During the year one petition relative to access to great ponds has been filed in accordance with the provisions of chapter 453 of the Acts of 1923.

A petition of ten citizens of the Commonwealth for the establishment of a right of way to Dunham pond was presented to the Department on Nov. 18, 1930, and has been assigned for public hearing before the joint board on Dec. 17, 1930. No further action will be taken until after the hearing.

PROVINCE LANDS

The territory belonging to the Commonwealth known as the Province Lands at Provincetown comprises about 3,800 acres lying northerly and westerly of a line described in chapter 470, Acts of 1893. By the terms of this act the Board of Harbor and Land Commissioners was given general care and supervision of this area.

Reclamation work under the direction of a superintendent has been carried on since 1894. To check the movement of the sand the barren dunes are first covered with brush or planted with beach grass. The grass is pulled in bunches about two inches thick and transplanted in rows about 4 feet apart and 6 inches deep. The transplanted grass lives between three and four years. This work is followed and reinforced by the transplanting of trees and shrubs.

During the year work on these lands has been continued in accordance with these methods. Five acres of sand dunes have been covered with brush and three acres of bayberry were transplanted to reinforce areas previously planted. In addition 20,000 native pines on the sod have been transplanted and 350,000 seedlings of Scotch and Austrian pines planted.

During the year a section of State Highway was extended across the Province Lands, connecting the road constructed in 1929, with the old State Highway leading north from Provincetown and so completing a circuit through the Province Lands.

In September and October a series of forest fires broke out on the Province Lands resulting in the burning of several hundred acres. The amount of damage caused to growing trees cannot be easily determined until Spring, but it will probably be necessary to replant trees on a portion of the area burned.

By Chapter 300 of the Acts of 1930 the Department is authorized and directed, for the purpose of preventing the breeding of mosquitoes in the Province Lands to lay out and construct a dike across Race Run, and to do such other work as may be necessary, in consultation with the State Reclamation Board, at an expenditure not exceeding \$20,000.

On July 15, 1930, a contract was made with Frank H. Barry to construct a sand, marsh sod and timber dike about 3,200 feet long across Race Run at a contract price of \$18,950. This work is now in progress.

The conveyance by the Commonwealth to the Federal Government of a tract of land not exceeding nine acres, located westerly of the northerly end of the State Highway at Sea View, is authorized by Chapter 386 of the Acts of 1930, for

the purpose of providing a site for a Coast Guard Station. Consultations have been held regarding the exact limits of the area desired by the Coast Guard, but no deed has yet been signed.

The sum of \$301.85 has been paid into the State Treasury during the year from licenses issued for cultivating and picking cranberries on the bogs and for mowing meadows and from permits for occupying certain areas on these lands.

Amount expended during the year, \$19,705.64. Total expenditure to Dec. 1, 1930, \$145,777.92.

STATE BOUNDARY LINES

Chapter 1 of the General Laws, section 4, requires that the Department of Public Works shall in the year 1925 and in every fifth year thereafter inspect all monuments or other marks defining the location of the boundary lines of the Commonwealth and if any of them have been injured, displaced, removed, or lost, the Department shall, in cooperation with persons duly authorized by the adjacent state, restore them or replace them with suitable stone monuments and in the same manner set suitable stone monuments at points not properly marked where the state boundary is intersected by the boundary of any county, city, or town in the Commonwealth, or by a highway or railroad. If officers of adjoining States are required to make such inspection at other times, the Department may cooperate with them.

The perambulations of the boundary line between the Commonwealth of Massachusetts and the state of New York was made conjointly with William J. Henk, representing the state of New York, beginning July 8 and ending July 29, 1930. All the marks were visited between the dates mentioned and, with one exception, were found to be in good condition and properly set. One bound was reset in concrete and a small portion of the line cut out to facilitate finding the bound in the future.

The perambulation of the boundary line between the Commonwealth and the state of New Hampshire was made conjointly with Leslie C. Clark, representing the state of New Hampshire, between June 17, 1930, and July 3, 1930. All the marks were visited between the dates stated and were found, with one exception, to be in good condition and properly set. One monument was reset in concrete.

The perambulation of the boundary line between the Commonwealth of Massachusetts and the state of Vermont was made conjointly with Willard E. Walker and Edward W. Northrop, representing the state of Vermont, between June 3 and August 31, 1930. All the marks were visited between the dates stated and, with three exceptions, were found to be in good condition and properly set. Three bounds were reset in concrete and a topographical sketch made of the location of Bound 5 showing an easy way to find the bound which has always been difficult to locate.

Perambulation of the boundary line between the Commonwealth of Massachusetts and the state of Rhode Island and Providence Plantations was made conjointly with Everett A. Kingsley, representing the state of Rhode Island, beginning September 10 and ending September 23, 1930. All the marks were visited between the dates stated and, with certain exceptions, found to be in good condition and properly set. The work of setting damaged monuments was in progress at the close of the fiscal year.

The perambulation of the boundary line between the Commonwealth of Massachusetts and the state of Connecticut was made conjointly with Henry R. Buck, representing the state of Connecticut, beginning August 5 and ending August 20, 1930. All marks were visited between the dates mentioned and, with one exception, the bounds were found to be in good condition and properly set. One bound was reset in concrete.

TOWN BOUNDARY LINES

During the year, at the request of the towns of Eastham and Wellfleet, a portion of the boundary line between these towns where it crosses tide water and Billingsgate Island was redetermined and marked with witness monu-

ments set on the mainland and on Billingsgate Island. Also a portion of the boundary line between Newbury and Rowley was run where the line crosses Plum Island and Plum Island River.

CONSERVING AND EQUALIZING THE FLOW OF WATER IN RIVERS AND STREAMS

By chapter 359, Acts of 1909, chapter 564, Acts of 1912, and chapter 84, Resolves of 1917, cooperation was established between the Commonwealth and the Water Resources Branch of the United States Geological Survey, so that results of work relating to the gauging of streams within the Commonwealth and other work of a similar character carried on by the said survey have been obtained for use by the Department and are available for other Departments of the Commonwealth. Toward the cost of this work the Department has paid during the year, \$3,865.48.

An inspection made during the year of all gauging stations makes it clear that many old and delapidated ones need to be rebuilt. To rebuild old stations and maintain existing ones will require an increase of at least \$1,000 in the appropriation.

RE-ESTABLISHMENT OF CERTAIN TRIANGULATION STATIONS

By section 33, chapter 91, General Laws, the Division is authorized to make such surveys and to do such other work as may be required by any order of the Land Court, to re-establish and permanently mark certain triangulation points and stations previously established in connection with the topographical survey of the Commonwealth, and the town boundary survey, which have been lost or destroyed, and to obtain the geographical position of such new points and stations as may be required from time to time by the Court.

During the year the locations of the following triangulation points were determined and permanently marked on the ground and geographical positions furnished to the Land Court: 4 stations in Norwood, 4 in Dennis, 8 in Brewster, 6 in Chatham, 18 in Nantucket and 2 in Bellingham. Amount expended during the year, \$914.36.

LICENSES AND PERMITS

During the year 139 licenses were granted for work to be done in tide waters, great ponds, Connecticut River and Merrimack River and 110 permits for miscellaneous purposes. The Department also approved 83 permits granted by cities and towns for the construction and maintenance of fish weirs in tide water.

DETAILS OF EXPENDITURES FOR WATERWAYS

FOR DEVELOPMENT AND IMPROVEMENT IN BOSTON HARBOR,
1859-1930, INCLUSIVE

<i>Payments</i>	<i>To Nov. 30, 1929</i>	<i>1930</i>	<i>Total</i>
Boston Harbor	\$1,313,279 49 ¹		
Dredging and filling		\$64,289 45	
Maintenance of property		751 06	
Special appropriation		29,613 18	
Contribution		10,000 00	\$1,417,933 18
Commonwealth Flats, East Boston	3,087,515 11 ²		
Special appropriation		5,811 72	3,093,326 83
Commonwealth Flats, South Boston	4,872,123 69	—	4,872,123 69
Castle Island	737,384 19		
Dredging and filling		1,437 52	738,821 71
Commonwealth Pier No. 5, South Boston			
Construction	4,014,790 45		

¹ Contribution by Quincy Market Cold Storage and Warehouse Corporation in 1921, \$4,000.00.
² Appropriated by City of Boston in 1926, \$10,000.00.

<i>Payments</i>	<i>To Nov. 30, 1929</i>	<i>1930</i>	<i>Total</i>
Maintenance	467,614 64	83,278 30	
Dredging		22,050 36	
Operation and supervision . . .	1,306,307 53	107,852 41	6,001,893 69
Commonwealth Pier No. 1, East Boston			
Construction	1,199,703 23		
Operation and supervision . . .	95,444 70	8,013 70	
Maintenance	13,335 18		1,316,496 81
Commonwealth Pier No. 6, South Boston			
Construction	1,092,149 06		
Maintenance	51,937 90		1,144,086 96
Dry Dock	3,169,651 15 ¹		3,169,651 15
Hayward Creek	385,959 61 ²		385,959 61
Mystic River	428,463 41 ³	433 76	428,897 17
Malden River	32,268 70 ⁴		32,268 70
Chelsea Creek	60,519 88	42 00	60,561 88
Commercial Point, Dorchester Bay	53,213 10		53,213 10
Maintenance of Property of Commonwealth (in addition to maintenance items listed above)	258,666 76	52,295 63	310,962 39
	<hr/>	<hr/>	<hr/>
	\$22,640,327 78	\$385,869 09	\$23,026,196 87

EXPENDITURES AND CONTRIBUTIONS FOR IMPROVEMENT OF SMALL HARBORS AND CHANNELS WITHIN BOSTON HARBOR, UNDER THE DIRECTION OF THE DEPARTMENT OF PUBLIC WORKS AND ITS PREDECESSORS, FROM 1893 TO 1930, INCLUSIVE

<i>Locality and Character of Work</i>	<i>Contributions by Municipality or Others</i>	<i>Total Expenditure</i>
Cottage Park Channel, Winthrop, dredging . . .	\$1,000 00	\$22,012 08
Dorchester, Easterly Shore, dredging and survey . .	1,000 00	206,271 02
Harbor View, dredging	—	146 00
Hingham Harbor, dredging	6,500 00	41,595 12
Houghs Neck Channel, Quincy, dredging	7,500 00	30,092 76
Island End River, Everett, survey	—	264 10
Jeffries Point Channel, dredging	—	3,009 11
Mystic River (near Lawrence and Wiggin Wharf), dredging	—	5,927 70
Neponset River, dredging	10,000 00	102,302 10
Old Harbor Cove, dredging	—	10,520 48
Orient Heights Channel, dredging	—	45,412 38
Pemberton Point, Hull, breakwater	60,000 00	90,520 98
Pleasant Park Yacht Club Channel, dredging . . .	3,000 00	14,513 92
Point Allerton, Hull, sea wall	50,000 00	75,127 05
Point Shirley, Winthrop, dredging	—	3,713 37
Quincy Bay, dredging	7,150 00	71,263 17
Shirley Gut, Boston and Winthrop, dredging . . .	—	2,110 96
South Boston, Southerly Shore, dredging	—	129,542 08
Stony Beach, Hull, sea wall	—	12,326 09
Town River, Quincy, survey and dredging	16,050 00	57,573 27

¹ \$17,877.73 additional paid by State Treasurer from Development of the Port of Boston Loan Sinking Fund in settlement of claims.

² Contributions by Massachusetts Oil Refining Company and Bethlehem Ship Building Corporation, \$38,600; paid by State Treasurer for land taking, \$3,725.27.

³ Contribution by Merrimac Chemical Company, 1920, \$15,000.00; 1922, \$4,182.50; contribution by Beacon Oil Co., 1920, \$50,000.00.

⁴ Expended by United States Government, \$31,000; contribution by Standard Oil Company of New York, \$600.00.

<i>Locality and Character of Work</i>	<i>Contributions by Municipality or Others</i>	<i>Total Expenditure</i>
Weir River, Hull, dredging	\$45,000 00	\$198,195 48
Wessagussett Channel, dredging	—	815 20
Weymouth Fore River, dredging	8,250 00	69,469 09
Winthrop Harbor Channels, dredging	1,700 00	39,783 58
	<hr/>	<hr/>
	\$217,150 00	\$1,232,407 09

EXPENDITURES AND CONTRIBUTIONS FOR RIVER AND HARBOR WORK
FROM DEC. 1, 1929, TO NOV. 30, 1930

<i>Location and Character of Work</i>	<i>Contributions</i>	<i>Expenditures</i>
Allen's Harbor, Harwich, timber fence, riprap and jetties	\$1,600 00	\$267 55
Annisquam River, Gloucester, dredging and removal of boulders	—	523 49
Bass River, Dennis and Yarmouth, dredging and jetties	18,595 00	59,564 85
Brant Rock, Marshfield, riprap	—	1,671 58
Cape Poge, Edgartown, survey	—	160 54
Centerville River, Barnstable, dredging	14,211 50	679 37
Cohasset Harbor, Cohasset, survey	—	418 05
Conservation of waters	—	3,865 48
Cotuit Harbor, Cotuit, dredging	—	1,939 86
Duxbury Harbor, Duxbury, dredging	25,000 00	49,837 76
Falmouth Heights, Falmouth, riprap and jetty	5,987 50	12,704 58
Falmouth Inner Harbor, Falmouth, dredging	2,500 00	6,662 00
Gloucester Harbor, Gloucester, dredging	7,500 00	29,792 06
Great Ponds, survey	—	2,780 87
Green Harbor, Marshfield, timber fence	2,500 00	2,404 91
Herring River, Harwich, dredging	29,600 00	27,820 00
Hull, concrete jetties	—	578 87
Improvement of rivers and harbors, general ex- penses	—	3,162 05
Lake Tashmoo, Tisbury, survey	—	402 24
Manchester Harbor, Manchester, dredging	6,500 00	12,518 91
Monument Beach, Bourne, survey	—	326 40
New Bedford State Pier, operation	—	2,474 46
Oak Bluffs, bulkhead and jetties	—	8,332 24
Plymouth Harbor, dredging	21,000 00	35,868 73
Plymouth Memorial Park, maintenance	—	4,609 23
Province Lands, Provincetown, reclamation	—	19,705 64
Provincetown Harbor, survey	—	170 94
Rock Harbor, Orleans, excavating	—	596 55
Rockport Harbor, Rockport, survey	—	164 70
Scituate, shore protection:—		
Glades, North Scituate, riprap	—	1,203 42
North Scituate, Surfside, sea wall repairs	—	176 50
Scituate Harbor, dredging and surveys	20,000 00	40,217 16
Sippican Harbor, Marion, survey	—	608 49
Water Conservation.—See Conservation of Waters		
West Bay, Barnstable and Osterville, dredging	1,128 07	4,585 73
West Harwich, Harwich, shore protection	—	6,934 89
Wild Harbor, Falmouth, dredging	10,000 00	13,971 81
Winthrop Shore, Winthrop, survey	—	203 81
Witchmere Harbor, Harwich, dredging	—	253 44
Wrecks and obstructions, removal of	—	1,447 26
	<hr/>	<hr/>
	\$166,122 07	\$359,606 42

EXPENDITURES AND CONTRIBUTIONS FROM 1893 TO 1930, INCLUSIVE, FOR RIVER AND HARBOR WORK, UNDER THE DIRECTION OF THE DEPARTMENT OF PUBLIC WORKS AND ITS PREDECESSORS (EXCEPTING BOSTON HARBOR)

<i>Locality and Character of Work</i>	<i>Contributions by Municipality or Others</i>	<i>Total Expenditure</i>
Acushnet River, inspection and dredging	—	\$119,792 10
Allens Harbor, Harwich, shore protection, jetties and riprap	\$9,827 50	26,733 27
Allens Pond, Dartmouth, survey	—	195 95
Angle Tree Monument, reservation	—	1,306 22
Annisquam River, Gloucester, dredging, removing ledges and riprap	13,250 00	171,498 69
Apponagansett Harbor and River, Dartmouth, survey, dredging and stone breakwater	—	55,786 05
Barnstable Harbor, Barnstable, dredging	1,500 00	18,554 64
Bass River, Beverly, dredging	55,535 75	81,075 56
Bass River, Dennis and Yarmouth, jetties, dredging and survey	22,595 00	176,526 08
Beach Street, Scituate. — See Scituate		
Beverly Harbor, Beverly, dredging	—	50,000 00 ¹
Brant Rock, Marshfield, sea wall	6,556 60	26,427 66
Brewster, Skaket, Inlet, survey	—	617 19
Bucks Creek, Chatham, jetties, survey and dredging	2,500 00	39,719 69
Buzzards Bay, Falmouth, survey	—	166 11
Cape Poge, Edgartown, cut through beach, jetties and riprap	16,500 00	42,557 04
Cataumet Harbor. — See Megansett Harbor		
Cedar Point, Scituate. — See Scituate		
Centerville River, Barnstable, dredging	15,711 50	8,282 59
Cohasset Harbor, Cohasset, breakwater and dredging	33,691 88	97,064 44
Concord River, Billerica, removing boulders	150 00	1,664 59
Connecticut River, investigation of navigation and surveys	—	8,878 96
Connecticut River, Agawam, protective work	—	18,814 42
Connecticut River, Chicopee, survey, wall and riprap	640 00	25,789 02
Connecticut River, Hadley, protective work, diversion wall and survey	5,000 00	118,740 95 ²
Connecticut River, Hatfield, dikes and riprap	1,000 00	51,238 61
Connecticut River, Holyoke, dredging and protective work	1,991 29	9,253 27
Connecticut River, Holyoke, marking and lighting old piers	—	1,195 32
Connecticut River, Northampton, protective work	—	1,524 20
Connecticut River, Northfield, riprap	—	9,028 90
Connecticut River, South Hadley, wall	1,000 00	7,379 58
Connecticut River, Springfield and West Springfield, protective work	—	12,510 08 ³
Conservation of Waters, investigations	—	71,630 02
Cotuit Harbor, Barnstable, dredging, survey and bulkhead repairs	13,183 38	83,243 85
Cuttyhunk Harbor, Gosnold, jetties and dredging	9,000 00	70,754 18
Deacons Pond Harbor. — See Falmouth Inner Harbor		
Duxbury Bay and Harbor, dredging	27,000 00	92,653 35

¹ \$50,000.00 expended by United States Government.

² From 1888 inclusive.

³ From 1891 inclusive.

<i>Locality and Character of Work</i>	<i>Contributions by Municipality or Others</i>	<i>Total Expenditure</i>
East Bay, Osterville, jetties, dredging and removing scows	\$10,000 00	\$70,924 23
Edgartown Harbor, Edgartown, survey and cut in beach	300 00	3,496 64
Ellisville Harbor, Plymouth, dredging and jetty re- pairs	—	19,660 43
Essex County beaches, survey	—	1,000 00
Essex River, Essex, dredging	—	76,304 33 ¹
Fall River Harbor, improvement	—	1,130 18
Falmouth Heights, Falmouth, sea wall and riprap	22,210 04	70,667 71
Falmouth Inner Harbor, dredging, jetties, wall and riprap	31,500 00	150,396 26
First and Second Cliffs, Scituate. — See Scituate		
Fresh Water Cove, Gloucester, dredging	3,300 00	17,477 53
Gay Head, survey	—	555 42
Glades, North Scituate. — See Scituate		
Gloucester, Western Avenue, sea wall	35,000 00	60,000 00
Gloucester Harbor, Gloucester, dredging and remov- ing ledges	15,000 00	148,786 71
Great Head, Winthrop. — See Winthrop Shore		
Great Ponds, survey	—	16,653 00
Green Harbor, Marshfield, jetties, dredging and survey	2,500 00	79,036 95
Gun Rock Point, Hull, breakwater	16,135 41	77,939 33
Harbor Cove, Gloucester, survey and dredging	3,866 00	25,155 04
Herring Creek, Scituate, survey	—	253 76
Herring River, Harwich, jetties, dredging and fence	32,100 00	86,001 14
Herring River, Wellfleet, dikes and ditches	10,000 00	34,509 38
Hoosac River, North Adams, excavation and survey	—	21,271 67
Housatonic River, Sheffield, survey	—	2,011 29
Hull, sea wall and jetties	8,882 06	38,485 08
Humarock Beach, Scituate. — See Scituate		
Hyannisport, Barnstable, survey and breakwater	2,500 00	65,017 76
Improvement of Rivers and Harbors, general ex- penses	—	36,097 73
Ipswich River, Ipswich, jetty, wall, riprap and dredging	3,800 00	59,079 55
Kings Beach, Swampscott, removal of obstruction	—	166 41
Lake Anthony, Oak Bluffs, jetties and dredging	5,000 00	75,531 24
Lake Quannapowitt, Wakefield, investigation	—	345 32
Lake Tashmoo, Tisbury, survey	—	402 24
Lewis Bay, Barnstable, survey and dredging	18,809 29	66,631 28
Little Harbor, Marblehead, dredging	2,500 00	11,166 16
Little River, Gloucester, survey	—	862 93
Lobster Cove, Gloucester, dredging	4,500 00	61,603 36
Lynn Harbor, Lynn, anchorage basin, survey and dredging	5,200 00	121,609 22
Lynn Harbor and Saugus River, dredging and filling	37,500 00	163,431 53
Manchester Harbor, Manchester, survey, jetties and dredging	76,500 00	176,295 48
Mattapoissett Harbor, survey	—	255 48
Megansett Harbor, Bourne and Falmouth, dredging	12,730 00	52,116 66
Menamsha Inlet, Chilmark and Gay Head, jetties, dredging, sea wall and riprap	2,700 00	116,992 11
Merrimack River, investigation and survey	—	1,208 50

¹ \$5,000.00 expended by United States Government.

<i>Locality and Character of Work</i>	<i>Contributions by Municipality or Others</i>		<i>Total</i>
			<i>Expenditure</i>
Mill River, Gloucester, survey and dredging . . .	\$300 00		\$24,899 59
Mitchell's River, Chatham, survey and dredging . .	6,000 00		23,113 92
Monument Beach, Bourne, survey	—		326 40
Nahant, survey	—		82 15
Namequoit River and Pleasant Bay, dredging . .	5,500 00		28,529 62
Nantucket, survey of Sesachacha Pond	—		110 66
Nantucket Harbor, dredging	5,000 00		58,982 52
Nauset Harbor and Town Cove, Orleans, dredging	2,000 00		10,671 24
New Bedford Harbor, dredging	—		18,856 57
New Bedford State Pier, pier shed and dredging .	13,446 74 ¹		494,133 33
New Bedford State Pier, operation and maintenance	—		53,188 55
Newburyport Harbor, survey	—		115 97
Nobscusset Harbor, Dennis, breakwater, dredging and riprap	1,950 00		41,385 22
North River, Marshfield, surveys and removing rocks	1,800 00		8,658 75
North River, Salem, survey	—		704 52
North Scituate. — See Scituate			
Oak Bluffs, removing rocks	—		594 95
Oak Bluffs, sea walls, bulkhead and jetties . .	52,500 00		141,077 77
Ocean Grove, Swansea, survey	—		143 23
Onset Bay, Wareham, survey and dredging . . .	1,000 00		15,295 89
Orleans, survey	—		104 18
Palmer's Pond, Falmouth, survey	—		358 76
Pamet River, Truro, survey, dredging and repair- ing jetties	1,200 00		198,010 32
Paskamansett River, Dartmouth, dredging and jetty	—		5,227 68
Penikese Island, Gosnold, pile wharf and survey .	—		5,192 95
Pines River, Revere and Saugus, survey	—		904 80
Pleasant Bay, Chatham	600 00		2,364 33
Plum Island River, Newbury and Newburyport, survey	—		983 31
Plymouth Harbor, dredging and removing old piling	92,794 55 ²		318,555 35
Plymouth Memorial Park, maintenance	—		35,687 08
Point Shirley, Winthrop. — See Winthrop Shore			
Poponneset Bay, Barnstable and Mashpee, dredging	—		46,252 33
Powow River, Amesbury, dredging channel and rip- rapping wall	—		502 94
Province Lands, Provincetown	—		145,777 92
Provincetown Harbor, shore protection	75 00		28,730 81
Quamquisset Harbor, Falmouth, survey	—		710 31
Quansett Harbor, Orleans, survey and dredging .	500 00		2,194 50
Red Brook Harbor, Bourne, removing pier . . .	—		275 00
Revere, stone breakwater	—		60,397 93
Rock Harbor, Orleans, dredging	2,400 00		20,667 51
Rockport Harbor, Rockport, dredging and removing rocks	500 00		15,720 28
Salem Harbor, Salem, survey	—		1,509 92
Salt Pond River, Eastham, survey	—		210 11
Salter's Point, Dartmouth, breakwater	4,500 00		42,939 57
Sand Hills, Scituate.— See Scituate			
Sandwich Harbor, Sandwich, dredging channel, rip- rap and jetties	—		80,579 84
Saugus River, Lynn and Saugus	2,000 00		20,845 17

¹ Paid by Surety Company.² \$57,000.00 expended under direction of United States Government.

<i>Locality and Character of Work</i>	<i>Contributions by Municipality or Others</i>	<i>Total Expenditure</i>
Scituate, shore protection: —		
Beach Point, Scituate, wall and breakwater . . .	\$17,333 52	\$34,782 50
Cedar Point, Scituate, wall and breakwater . . .	21,446 64	37,445 32
First and Second Cliffs, Scituate, wall and riprap . . .	2,297 92	13,053 52
Glades, North Scituate, filling and riprap . . .	13,250 78	30,737 96
Humarock Beach, Scituate, survey, wall and jetties . . .	37,816 38	57,279 06
North Scituate, Surfside, spur jetties . . .	1,757 60	17,042 69
Sand Hills, Scituate, wall and jetties . . .	4,511 26	12,624 06
Third Cliff, Scituate, riprap and survey . . .	75,193 10	121,353 34
Scituate Harbor, dredging and surveys . . .	53,300 00	205,865 94
Scorton Harbor, Sandwich, jetty and dredging . . .	500 00	17,774 34
Seapuit River, Barnstable, dredging . . .	13,000 00	25,088 55
Sesuit Harbor, Dennis, jetty . . .	1,500 00	24,555 10
Shirley Gut, survey . . .	—	97 05
Sippican Harbor, Marion, survey . . .	—	615 66
Smith's Cove, Gloucester, survey and dredging . . .	3,875 00	13,466 16
South River, Salem, dredging . . .	3,000 00	13,462 66
South Watuppa Pond, Fall River, fenders and excavation . . .	—	203 42
Stage Harbor, Chatham, dikes and survey . . .	—	10,803 01
Taunton-Brockton waterway, investigation . . .	—	5,278 18
Taunton River, survey and dredging . . .	12,500 00	28,697 18
Taunton River-Boston Harbor Canal, survey . . .	—	9,932 75
Taunton River-Massachusetts Bay Canal, survey . . .	—	11,786 71
Third Cliff, Scituate. — See Scituate.		
Vineyard Haven Harbor, repairing sea wall . . .	2,380 50	11,945 01
Vineyard Haven Harbor, Tisbury, breakwater and dredging . . .	1,000 00	45,518 25
Waquoit Bay, Falmouth, breakwater, wall and bulkhead . . .	2,000 00	57,424 50
Wareham River, Wareham, survey and dredging . . .	5,000 00	42,567 93
Warrens Cove, Plymouth, sea wall and survey . . .	9,713 98	25,099 86
Watch Hill, Chatham, survey and riprap . . .	—	14,968 75
Water Conservation. — See Conservation of Waters.		
Wellfleet Harbor, Wellfleet, survey and dredging . . .	1,500 00	17,600 29
West Bay Barnstable and Osterville . . .	16,128 07	114,517 57
West Falmouth Harbor, Falmouth, surveys, dredging and breakwater . . .	11,473 75	63,350 92
West Harwich, shore protection . . .	3,500 00	20,428 30
Westfield River, Westfield, survey and jetties . . .	—	6,037 29
Westport Harbor, Westport, jetty extension . . .	—	19,025 07
Wild Harbor, Falmouth, jetty and dredging . . .	15,000 00	50,351 36
Winthrop Shore, sea walls and protective work . . .	40,500 00	97,547 52
Witchmere Harbor, Harwich, jetties and dredging . . .	3,000 00	55,795 13
Woods Hole, Great Harbor, Falmouth, dredging . . .	1,500 00	6,968 86
Wrecks, removal from tide water . . .	—	20,283 69
Yarmouthport Harbor, survey . . .	7,000 00	95,977 37
	<hr/> \$1,174,210 49	<hr/> \$6,924,058 20

FEDERAL APPROPRIATION AND EXPENDITURES

Federal appropriations and expenditures for improvement of rivers and harbors in Massachusetts from the establishment of the government to the close of the fiscal year ending June 30, 1930, are shown in the following tables furnished by the Chief of Engineers, U. S. Army: —

TABLE NO. 1. — *Localities at Present under Improvement*

(Compiled from the Annual Report of the Chief of Engineers, U. S. Army, for the fiscal year ending June 30, 1930)

<i>Locality</i>	<i>Expenditures</i>	<i>Appropriations</i>
Newburyport Harbor	\$500,900 00	\$500,900 00
Gloucester Harbor	538,183 00	538,183 00
Beverly Harbor	246,690 41	246,690 41 ¹
Salem Harbor	71,368 66	71,368 66
Lynn Harbor	471,937 00	471,937 00
Mystic River	306,684 84	306,684 84
Boston Harbor	13,443,058 14	13,494,862 58
Dorchester Bay and Neponset River	120,487 34	131,908 00
Weymouth Fore River	641,150 00	641,150 00 ²
Weymouth Back River	27,000 00	27,000 00
Scituate Harbor	126,590 98	126,590 98
Plymouth Harbor	421,184 80	421,184 80 ³
Cape Cod Canal	11,843,479 71	12,034,555 45
Operating and Care of Cape Cod Canal	534,110 95	544,000 00
Provincetown Harbor	348,062 72	348,062 72
Pollock Rip Shoals, Nantucket Sound	1,294,738 15	1,332,845 68
Harbor of Refuge at Nantucket	694,582 83	694,582 83
New Bedford and Fairhaven Harbor	935,852 58	935,852 58
Fall River Harbor	411,614 07	411,614 07
Taunton River	204,329 19	204,329 19
	<hr/>	<hr/>
	\$33,182,005 37	\$33,484,302 79

TABLE NO. 2. — *Localities in Which Work is Not Now in Progress*

(Compiled from data furnished by the United States Treasury Department and the Chief of Engineers, U. S. Army)

<i>Locality</i>	<i>Expenditures</i>	<i>Appropriations</i>
Merrimack River	\$404,466 72	\$404,466 72
Malden River	149,950 00	149,950 00
Sandy Bay, Cape Ann, Harbor of Refuge	1,941,478 00	1,941,478 00
Bass River	20,150 34	20,150 41
Buzzards Bay Harbor	2,500 00	2,500 00
Canapitset Channel	5,312 54	9,800 00
Chatham Harbor	12,171 36	13,732 79
Cohasset Harbor	10,000 00	10,000 00
Duxbury Harbor	37,000 00	37,000 00
East Dennis breakwater	7 57	1,500 00
Edgartown Harbor	25,000 00	25,000 00
Essex River	30,000 00	30,000 00
Hingham Harbor	38,316 58	39,000 00
Hyannis Harbor	221,267 07	221,267 07
Ipswich River	5,617 91	7,500 00
Kingston Harbor	8,940 09	10,000 00
Little Harbor, Woods Hole	18,000 00	18,000 00
Manchester Harbor	23,985 57	24,300 00
Marblehead Harbor	833 42	1,900 00
Martha's Vineyard Harbor	7,000 00	7,000 00
Powow River	50,940 72	51,000 00
Rockport Harbor	91,229 25	91,232 57
Town River	37,577 41	37,577 41
Vineyard Haven Harbor	55,387 35	60,000 00
Wareham Harbor	95,997 30	96,236 00

¹ In addition \$100,000 has been contributed by local interests.² In addition \$100,000 has been contributed by local interests.³ In addition \$108,400 has been contributed by local interests.

<i>Locality</i>	<i>Expenditures</i>	<i>Appropriations</i>
Wellfleet Harbor	11,365 57	16,000 00
Westport Harbor and River	3,000 00	3,000 00
Winthrop Harbor	9,000 00	9,000 00
Woods Hole Channel	343,599 92	344,000 00
Total	\$3,660,094 69	\$3,682,590 97

Recapitulation

Total of Table No. 1	\$33,182,005 37	\$33,484,302 79
Total of Table No. 2	3,660,094 69	3,682,590 97
Grand total	\$36,842,100 06	\$37,166,893 76

EXPENDITURES ON BOSTON HARBOR AND ITS TRIBUTARIES TO JUNE 30, 1930

(The tributaries given are those now under improvement and do not include tributaries heretofore improved)

<i>Locality</i>	<i>Expenditures</i>	<i>Appropriations</i>
Boston Harbor proper ¹	\$13,443,058 14	\$13,494,862 58
Mystic River	306,684 84	306,684 84
	\$13,749,742 98	\$13,801,547 42

¹ Including Chelsea Creek.

CONTRACTS MADE BY THE DEPARTMENT OF PUBLIC WORKS

CON-TRACT No.	Work	Contractor	Date
201	Savin Hill Bay and Dorchester Bay, dredging.	Trimount Dredging Company .	July 16, 1929
204	D Street Storehouse, repairs to plat- forms.	Geo. W. Nicoll Co. Inc. .	Sept. 3, 1929
205	Town River, Quincy, dredging .	Bay State Dredging and Con- tracting Company.	Sept. 17, 1929
207	Wild Harbor, Falmouth, dredging .	Trimount Dredging Company .	May 6, 1930
208	Commonwealth Pier 5, wooden bridges over railroad tracks.	Maurice M. Devine . . .	Oct. 22, 1929
211	West Harwich, shore protection .	Edward E. Crowell and Isaiah Kelley.	Oct. 29, 1929
213	Bass River, Yarmouth, extension of easterly jetty.	Bay State Dredging and Con- tracting Company.	Nov. 19, 1929
214	Commonwealth Pier 5, repairs to timber platforms.	W. H. Ellis & Son Co. . .	Nov. 27, 1929
215	Hull, Sea wall Gun Rock—Green Hill, spur jetties.	Bradford Weston . . .	Nov. 19, 1929
216	Boston Airport, miscellaneous repairs to hangars of M. N. G.	Hill and Delaney . . .	Nov. 26, 1929
217	Commonwealth Pier 5, repairs to floor surfacing.	Reynolds Bros., Inc. . .	Nov. 27, 1929
218	Ramp and portion of D St., repaving	A. DeStefano & Sons, Inc. .	Nov. 27, 1929
219	D St. Storehouse, cement plaster sur- facing on walls.	Maurice M. Devine . . .	Nov. 27, 1929
220	Commonwealth Pier 5, indicator posts and gate valves on water pipes.	M. De Sisto Company . .	Nov. 27, 1929
221	Commonwealth Pier 5, steel office par- titions in Room 350.	E. F. Hauserman Company, Inc.	Dec. 24, 1929
222	Commonwealth Pier 5, dredging east and west docks.	Bay State Dredging and Con- tracting Company.	Jan. 7, 1930
223	Commonwealth Pier 5, refreshment booth.	Carl S. Helrich . . .	Jan. 7, 1930
224	Duxbury Harbor, dredging . . .	Bay State Dredging and Con- tracting Company.	Mar. 18, 1930

AND IN FORCE DURING THE YEAR ENDING NOV. 30, 1930

Condition of Work	Contract Prices	Amount paid during year ending Nov. 30, 1930	Total paid to Nov. 30, 1930	Estimated amount of contract
Completed July 10, 1930	For dredging channels, 40 cents per cubic yard measured in situ. For dredging flats, 49 cents per cubic yard measured in situ. For removing and disposing of boulders, \$18 per cubic yard.	\$75,384 90	\$116,967 20	\$113,418 00
Completed Nov. 26, 1929	Unit prices	1,694 42	2,488 89	2,277 00
Completed Mar. 7, 1930	For dredging channel and disposing of dredged material, 49 cents per cubic yard, scow measurement. For removing and disposing of boulders, \$20 per cubic yard.	39,449 26	54,325 81	40,200 00
In progress	For dredging and disposing of dredged material on shore, 57 cents per cubic yard, measured in situ. For removing and disposing of boulders, \$20 per cubic yard.	13,034 50	13,034 50	19,500 00
Completed Dec. 28, 1929	For making and installing wooden bridges over railroad tracks in track pit, \$249 each.	1,465 96	2,481 88	1,992 00
Completed Feb. 24, 1930	For furnishing materials and building wire fence, \$1.55 for each linear foot. For furnishing materials and building wire spur jetties, \$1.55 for each linear foot.	5,728 10	5,728 10	5,087 10
Completed May 3, 1930	For furnishing and placing stone riprap and chips in jetty, \$6.15 for each ton of 2000 pounds.	24,318 45	24,318 45	22,140 00
Completed Feb. 8, 1930	For furnishing, driving, fitting and securing fender piles on sides and end of pier, \$72 each. For furnishing, driving, fitting and securing new foundation piles, \$74 each. For furnishing and placing screw bolts, drift bolts, iron bands and fitting, 15c per pound. For furnishing, fitting and securing yellow pine lumber in fender cap and platforms, \$222 for 1500 feet B. M.	1,711 44	1,711 44	758 00
Completed Dec. 17, 1929	\$15 for each cubic yard of concrete in place in completed work.	520 80	520 80	525 00
Completed Jan. 8, 1930	For installation of toilet room, complete, \$2,300. For furnishing and laying 2-inch water and 4-inch sewer pipes, including excavation, back fill and all incidental work, \$675. For removal of boiler, \$150. For each 1000 ft. B. M. of lumber furnished and erected in storage platform, \$85.	3,050 00	3,050 00	3,465 00
Completed Dec. 28, 1929	Unit prices	6,561 25	6,561 25	4,340 00
Completed Apr. 11, 1930	Unit prices	15,738 18	15,738 18	12,787 25
Completed May 21, 1930	For furnishing and placing cement plaster surfacing ½ inch thick on tile wall, \$2.25 per square yard measured in place in the completed work.	1,046 89	1,046 89	945 00
Completed Mar. 27, 1930	For furnishing and installing complete, gate valves, indicator posts, offset line and wheel guards, including all incidental work, the lump sum of \$1,050.	1,379 96	1,379 96	1,050 00
Completed Jan. 24, 1930	For furnishing and erecting steel partitions, the lump sum of \$1,816. If Hauserman 102 Green finish, baked on enamel is used, \$166 may be deducted.	1,816 00	1,816 00	1,816 00
Completed July 1, 1930	For dredging and disposing of dredged material, 84½ cents per cubic yard, scow measurement.	21,346 30	21,346 39	20,000 00
Completed Feb. 1, 1930	For the construction of the Refreshment Booth complete, including plumbing, heating and electrical connections, the lump sum of \$833.	887 74	887 74	833 00
Completed May 23, 1930	For dredging and disposing of dredged material, 52 cents per cubic yard, scow measurement. For removing and disposing of boulders, \$20 per cubic yard.	48,084 64	48,084 64	49,420 00

CONTRACTS MADE BY THE DEPARTMENT OF PUBLIC WORKS

CON-TRACT No.	Work	Contractor	Date
225	Bird Island Anchorage Basin, repairs to dolphins.	A. A. Hersey & Son Company .	Mar. 18, 1930
226	Falmouth Heights, stone jetty and rip-rap.	Arthur K. Finney . .	Apr. 15, 1930
227	Commonwealth Pier 5, new doors, frames and glazing.	Hill & Delaney . . .	Apr. 29, 1930
228	Weir River, Hull, dredging . .	Bay State Dredging and Contracting Company.	Apr. 1, 1930
229	Manchester Harbor, dredging . .	Bay State Dredging and Contracting Company.	Apr. 15, 1930
230	E Street Storehouse, rebuilding timber platform.	Michael Solimando . . .	May 6, 1930
231	Scituate Harbor, dredging . .	Bay State Dredging and Contracting Company.	Apr. 29, 1930
232	Gloucester Harbor, dredging . .	Bay State Dredging and Contracting Company.	May 6, 1930
233	Plymouth Harbor, dredging . .	Bay State Dredging and Contracting Company.	May 20, 1930
234	Falmouth Inner, Harbor, dredging .	William E. Burke . . .	May 13, 1930
235	Commonwealth Pier 5, repairs to plaster walls, installation of steel plates and glazing.	Maurice M. Devine . . .	June 10, 1930
236	Bass River, Dennis and Yarmouth .	Bay State Dredging and Contracting Company.	July 15, 1930
237	Race Run Dike, Province Lands .	Frank H. Barry . . .	July 15, 1930
238	Boston Harbor, dredging off India, Central and Long Wharves.	Bay State Dredging and Contracting Company.	July 15, 1930
239	Centerville River, Barnstable, dredging	Trimount Dredging Company .	July 22, 1930

AND IN FORCE DURING THE YEAR ENDING NOV. 30, 1930

Condition of Work	Contract Prices	Amount paid during year ending Nov. 30, 1930	Total paid to Nov. 30, 1930	Estimated amount of contract
Completed May 14, 1930	For removing old piles, furnishing, driving and fitting new piles, \$74 for each pile removed and replaced. For furnishing and binding each dolphin with wire rope, \$33.50 for binding each dolphin.	\$733 00	\$733 00	\$437 00
Completed July 15, 1930	For furnishing and placing heavy stone and granite chips in the jetty, \$4.79 for each ton of 2000 pounds. For furnishing and placing heavy stone riprap in front of the existing concrete sea wall, \$4.79 for each ton of 2,000 pounds.	11,965 76	11,965 76	11,975 00
Completed June 2, 1930	For furnishing all materials and labor doing all work necessary to install complete new doors, \$125 for each set of new doors. For removing broken glass, furnishing and setting new wire glass, 75 cents for each light of glass.	1,179 00	1,179 00	1,400 00
Completed Oct. 15, 1930	For dredging and disposing of dredged material, 45 cents per cubic yard, scow measurement. For removing and disposing of boulders, \$20 per cubic yard.	64,141 81	64,141 81	72,020 00
Completed June 14, 1930	For dredging and disposing of dredged material, 43 cents per cubic yard, scow measurement. For removing and disposing of all boulders, \$20 per cubic yard.	11,930 89	11,930 89	11,200 00
Completed July 15, 1930	Unit prices	8,166 08	8,166 08	7,681 00
Completed Aug. 7, 1930	For dredging area "A" and disposing of dredged material, 53 cents per cubic yard, scow measurement. For removing and disposing of all boulders, \$20 per cubic yard. For dredging area "C" and disposing of the dredged material, 75 cents per cubic yard, scow measurement.	39,117 99	39,117 99	39,320 00
Completed Oct. 7, 1930	For dredging and disposing of dredged material, 39.8 cents per cubic yard, scow measurement. For removing and disposing of all boulders, \$20 per cubic yard.	29,228 72	29,228 72	27,880 00
Completed Nov. 20, 1930	For dredging and disposing of dredged material, 51 cents per cubic yard, scow measurement. For removing and disposing of all boulders, \$20 per cubic yard.	33,838 89	33,838 89	38,780 00
Completed May 25, 1930	For dredging channel and basin and disposing of dredged material, 45 cents per cubic yard, scow measurement. For removing and disposing of all boulders, \$20 per cubic yard.	5,230 90	4,230 90	4,520 00
Completed July 30, 1930	Unit prices	5,005 26	5,005 26	3,885 00
Completed Oct. 16, 1930	For dredging channel and shoals and disposing of dredged material, 58 cents per cubic yard, scow measurement. For removing and disposing of boulders, \$20 per cubic yard. For dredging anchorage basins and disposing of dredged material, 55 cents per cubic yard, scow measurement.	33,361 89	33,361 89	40,940 00
In progress	Lump sum of \$18,950	12,886 00	12,886 00	18,950 00
In progress	For dredging and disposing of dredged material, 36 cents per cubic yard, scow measurement. For removing and disposing of boulders, \$20 per cubic yard.	17,082 45	17,082 45	14,420 00
In progress	For dredging and disposing of dredged material on marsh, upland and beach, 35 cents per cubic yard, measured in place. For removing and disposing of boulders, \$10 per cubic yard.	-	-	21,710 00

CONTRACTS MADE BY THE DEPARTMENT OF PUBLIC WORKS

CON-TRACT No.	Work	Contractor	Date
240	Staples Coal Wharf, dredging westerly dock.	J. S. Packard Dredging Company.	July 15, 1930
241	East Boston, dredging off Cunard Docks (Grand Junction Wharves).	Bay State Dredging and Contracting Company.	July 15, 1930
242	Staples Coal Wharf, fender logs . . .	Bay State Dredging and Contracting Company.	July 15, 1930
243	Herring River, Harwich, dredging . .	Trimount Dredging Company . .	Aug. 26, 1930
244	East Boston, dredging adjacent to Simpson Works.	Bay State Dredging and Contracting Company.	Sept. 2, 1930
245	Commonwealth Pier 5, additions to engineering offices.	Carl S. Helrich	Aug. 26, 1930
246	Commonwealth Pier 5, additional offices and alterations for Registry of Motor Vehicles.	M. Slotnick Company . . .	Sept. 2, 1930
248	Green Harbor, Marshfield, timber fence	Owen W. Duffy Co. . . .	Oct. 14, 1930
249	South Boston, painting exterior of building on Grasselli Wharf and of garage under viaduct.	Maurice M. Devine	Oct. 28, 1930
250	Allens Harbor, Harwich, timber fence and rip-rap.	Joseph W. Nickerson . . .	Nov. 12, 1930
251	Neponset River, dredging	Bay State Dredging and Contracting Company.	Nov. 5, 1930
252	Witchmere Harbor, Harwich, dredging	William E. Burke	Nov. 5, 1930
253	Northern Avenue, sea wall	William R. Farrell	Nov. 18, 1930
254	Hough's Neck, Quincy, dredging . .	Bay State Dredging and Contracting Company.	Nov. 25, 1930

AND IN FORCE DURING THE YEAR ENDING NOV. 30, 1930

Condition of Work	Contract Prices	Amount paid during year ending Nov. 30, 1930	Total paid to Nov. 30, 1930	Estimated amount of contract
Completed Aug. 29, 1930	For dredging and disposing of dredged material, 50 cents per cubic yard, scow measurement.	\$3,040 50	\$3,040 50	\$2,265 00
In progress	For removing and disposing of boulders, \$15 per cubic yard.			
	For dredging and disposing of dredged material, 44.5 cents per cubic yard, scow measurement.	25,085 92	25 085 92	17,820 00
	For removing and disposing of boulders, \$20 per cubic yard.			
Completed Sept. 11, 1930	For furnishing, preparing and placing floating fender logs, \$3.53 per linear foot of fender log in place.	1,426 75	1,426 75	1,579 00
	For furnishing and attaching each chain complete, \$52 for each chain placed in the work.			
In progress	For dredging channel and disposing of dredged material upon adjacent flats, 58 cents per cubic yard, including building dikes and removing section of lower County Bridge.	25,587 19	25,587 19	51,610 00
	For removing and disposing of boulders, \$20 per cubic yard.			
In progress	For dredging and disposing of dredged material, 55 cents per cubic yard, scow measurement.	26,363 26	26,363 26	25,320 00
	For removing and disposing of boulders, \$20 per cubic yard.			
In progress	For furnishing labor and materials and building addition to engineering offices, \$17,890.	14,696 67	14,696 67	18,067 50
	For removing broken glass and furnishing and setting new wire glass, \$1.25 for each light of glass placed.			
	For reputting Fenestra sash, 35 cents for each light of glass puttied.			
Completed Nov. 21, 1930	For furnishing labor and materials and building additional offices and making alterations to offices at Registry, \$13,700.	12,825 05	12,825 05	14,295 00
	For removing broken glass and furnishing and setting new wire glass, \$2.50 for each light of glass so placed.			
	For reputting Fenestra sash, \$2.30 for each light of glass so puttied.			
In progress	For each linear foot of fence measured in place, including furnishing of all labor and materials and performing of all excavation, backfilling and incidental work, \$5.50.	2,103 75	2,103 75	3,700 00
In progress	For furnishing labor and equipment for painting by spraying under compressed air the exterior of two buildings, the lump sum of \$595.	303 45	303 45	595 00
In progress	For each linear foot of fence, measured in place, including furnishing of labor and materials, \$6.	—	—	2,785 50
	For each ton of riprap furnished and placed, including all grading and incidental work, \$4.65.			
In progress	For dredging and disposing of dredged material, 74 cents per cubic yard, scow measurement.	—	—	1,352 00
	For removing and disposing of boulders, \$20 per cubic yard.			
In progress	For dredging and disposing of dredged material, 60 cents per cubic yard, scow measurement.	—	—	4,940 00
	For removing and disposing of boulders, \$20 per cubic yard.			
In progress	For furnishing and placing riprap along toe of sea wall, including all incidental work, \$4.73 per ton of riprap in place.	—	—	2,838 00
In progress	For dredging and disposing of dredged material, 49 cents per cubic yard, scow measurement.	—	—	14,720 00
	For removing and disposing of boulders, \$20 per cubic yard.			

CONTRACTS MADE BY THE DEPARTMENT OF PUBLIC WORKS

CON-TRACT No.	Work	Contractor	Date
255	Coulter's Beach, Savin Hill Bay, placing sand or gravel.	Henry N. Worthington . . .	Nov. 25, 1930
256	Pilgrim Memorial Park, Plymouth, concrete walks, etc.	Domenik Romano . . .	Nov. 25, 1930
257	Brant Rock, Marshfield, riprap .	Philip B. Oakman . . .	Nov. 25, 1930
259	Herring River, Harwich, dredging .	Trimount Dredging Company .	Nov. 25, 1930

AND IN FORCE DURING THE YEAR ENDING NOV. 30, 1930

Condition of Work	Contract Prices	Amount paid during year ending Nov. 30, 1930	Total paid to Nov. 30, 1930	Estimated amount of contract
In progress	For furnishing and placing sand or sand and gravel, including all incidental work, \$1.20 per cubic yard of material placed in the work.	-	-	\$3,600 00
In progress	For straight granite curbing set in place, \$2.05 per linear foot. For curbed granite curbing set in place, \$2.25 per linear foot. For concrete walk in place, \$2.25 per square yard. For gravel walk in place, \$1.25 per square yard.	-	-	1,178 75
In progress	For placing riprap and chips, \$3.85 per ton.	\$1,636 25	\$1,636 25	2,500 00
In progress	For dredging and disposing of dredged material on marsh and flats, 40 cents per cubic yard. For removing and disposing of boulders, \$20 per cubic yard.	-	-	8,000 00

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The Commonwealth of Massachusetts

ANNUAL REPORT

OF THE

Department of Public Works

For the Year Ending November 30, 1931



The Commonwealth of Massachusetts

TWELFTH ANNUAL REPORT

OF THE

DEPARTMENT OF PUBLIC WORKS

YEAR ENDING NOVEMBER 30, 1931

To the Honorable Senate and House of Representatives of the Commonwealth of Massachusetts

In accordance with the provisions of law, I have the honor, as Commissioner of Public Works, to submit the twelfth annual report of the Department of Public Works for the year ending November 30, 1931.

The organization of the Department, as defined in chapter 16, General Laws, as amended by chapter 297, Acts of 1927, was as follows:—

Commissioner of Public Works, FRANK E. LYMAN.

Associate Commissioner, RICHARD K. HALE.

Associate Commissioner, HERMAN A. MACDONALD.

The Department has conducted during this year a road building program which has broken all previous records, both in mileage of road surfaces completed and in the expenditure of money. This impetus to highway work was caused by the special legislation, Chapter 122, Acts of 1931, which increased the tax on gasoline and in addition provided a bond issue of \$7,000,000. This made possible a material relief to the unemployment situation, and resulted in the employment of more men on highway work during the past year than ever before.

The mileage of new State highways laid out during the year amounted to 102.148 miles, but there were abandoned or discontinued 1.175 miles, so that the net mileage of State highways amounted to 1,769.669 miles at the end of the year.

The Department has constructed, reconstructed and widened 166 miles of State highways, and built 209 miles of roads in co-operation with cities, towns and counties under provisions of Chapter 90, General Laws, and, in addition, has constructed 12 miles of highways under provisions of Special Acts. Under the provisions of section 26, chapter 81, General Laws, the Department has had charge of the repair and maintenance of about 8.830 miles of public ways, exclusive of State highways, in 178 towns.

The Department has continued the policy of building wider types of pavements, many miles built this year being 30 and 40 feet in width. In many cases of highway intersections on important routes grade separations have been made by constructing a bridge to carry one road over the other to allow the continuous movement of traffic. New locations have been adopted for a number of highways in order to avoid dangerous conditions and to by-pass congested centers as well as for the purpose of decreasing distances.

The State highway projects have included the following:

Reconstruction and widening to 38 feet of about $5\frac{1}{2}$ miles of highway have been completed on the Boston to Lawrence route in the towns of Andover, Reading and North Reading, and a by-pass constructed to avoid the center of the town of Andover.

A section of the Boston Post Road in Marlborough and Northborough has been reconstructed and widened to 30 feet. The elimination of the railroad grade crossing in Weston at Stony Brook has been completed and a by-pass constructed to avoid the center of the town and the present highway connecting the two has been widened to 40 feet.

The completion of 17 miles of the new Boston to Worcester Turnpike, i. e., that portion between the Worcester-Shrewsbury town line and Framingham Center, and the start of an additional section between Framingham Center and the Natick-Wellesley town line. The highway will provide a roadway having a present width of 40 feet, consisting of two twenty-foot strips separated by a grassed strip and considered one of the most advanced types of highway for through traffic.

The construction of a by-pass is under way to avoid the city of Worcester, to extend from a point on the Boston Post Road in Northborough to Southbridge Street in Auburn, affording an improved route from Boston to Springfield, Hart-

ford and New York. The pavement will be of reinforced cement concrete 30 feet in width and will be widened to 40 feet on several of the summits to provide greater safety. At important intersections structures are being built to permit a separation of grades and to afford a continuity of traffic movement.

Considerable progress has been made in the improvement of the Mohawk Trail Route (Boston to North Adams), in the towns of Erving, Gill and Greenfield. When completed this highway will eliminate the circuitous route which now passes through the congested centers of Millers Falls and Turners Falls, two railroad grade crossings and considerable amount of dangerous grades and alignments. This includes construction of about 6 miles of new State highway, a highway grade separation, a bridge over the Central Vermont Railroad and the construction of a large steel arch bridge over the Connecticut River about 780 feet long with a roadway more than 100 feet above the river level.

Between Springfield and Pittsfield, on the so-called Jacob's Ladder Route, a cutoff approximately 4 miles long has been constructed in the towns of Chester and Huntington, avoiding two dangerous railroad crossings and two crossings of the Westfield River; and further west in the towns of Becket and Lee about 13 miles of State highway have been widened and resurfaced. This work completes the improvements in the entire highway from Westfield to Lee.

New bridges have been constructed across railroads in Bernardston and Hinsdale, replacing old bridges in dangerous locations.

Construction has begun on a new bridge across the Deerfield River between Greenfield and Deerfield to replace the historic Cheapside covered bridge.

A new highway has been completed in Hingham and Hull which allows traffic from Hull to reach the main land without passing through Nantasket Beach Reservation and also affords easier access to Nantasket Beach.

That part of the new Boston to Providence highway from the Pawtucket town line to the town of Foxborough has been completed; additional sections of this route are now under construction as far north as the town of Norwood. When completed this will afford a concrete pavement 40 feet wide with specially designed structures at important cross roads for separation of grades, permitting a continuous flow of traffic.

The highway between Fall River and Providence has been widened so that it is now 40 feet for the entire length in Massachusetts.

On the Boston to Cape Cod route via Plymouth, reconstruction, widening and relocation of the highway has been completed in the towns of Duxbury, Kingston and Pembroke. Further south, in Bourne and Plymouth, similar work has been done. On the Cape a cutoff about $5\frac{1}{2}$ miles in length has been built on new location in the town of Barnstable, avoiding the congested villages of Osterville and Centerville.

Another section of the circumferential highway in the towns of Canton, Dedham and Westwood, including bridges over two divisions of the New York, New Haven and Hartford Railroad, has been practically completed and an additional contract is now being executed further west in Dedham and in Westwood, Needham and Wellesley.

Under a Special Act the Department constructed a highway grade separation at the intersection of the Revere Beach Parkway and Broadway in the city of Revere. Also, under another Special Act work has been started on a parkway in Boston and Brookline from the West Roxbury Parkway to the Dedham line, and in a traffic artery in Boston from Blue Hill Avenue to Cummins Highway in the vicinity of Canterbury Street.

The Department, with the approval of the Governor of the Commonwealth, was authorized, on behalf of the Commonwealth, to acquire land in the city of Boston for a building for general office and headquarters purposes of the Department, and to construct a building for these purposes. Chapter 122 of the Acts of 1931 provided that the Department may expend for this purpose a sum not exceeding one million five hundred thousand dollars. Pursuant to this act, the Department appointed Edward T. P. Graham, of Boston, as Architect, on June 11, 1931, to prepare plans for and to supervise the construction of this building. Plans for the building were approved by the Governor on September 10, 1931. Contract plans and specifications were completed in November, 1931, and bids advertised to be received December 3, 1931.

The engineering and clerical staff of the Department was as follows:—

Chief Engineer, ARTHUR W. DEAN.

Highway Engineer (Projects), FRANKLIN C. PILLSBURY.

Highway Engineer (Construction), RAYMOND C. COBURN.

Highway Engineer (Maintenance), GEORGE H. DELANO.

Bridge Engineer, GEORGE E. HARKNESS.

District Highway Engineers:

District No. 1, GEORGE A. CURTIS, — Berkshire County and the towns of Worthington, Middlefield and Huntington in Hampshire County, and the towns of Chester, Montgomery, Russell, Blandford and Tolland in Hampden County.

District No. 2, H. D. PHILLIPS, — Franklin, Hampshire and Hampden Counties, with the following exceptions: three towns in Hampshire County included in District No. 1 and ten towns in Hampden County included in Districts Nos. 1 and 3.

District No. 3, JOHN A. JOHNSTON, — Worcester County and the towns of Brimfield, Holland, Monson, Palmer and Wales in Hampden County.

District No. 4, F. D. SABIN, — Middlesex County.

District No. 5, JAMES E. LAWRENCE, — Essex and Suffolk Counties.

District No. 6, H. O. PARKER, — Norfolk and Bristol Counties.

District No. 7, H. C. HOLDEN, — Plymouth, Barnstable, Dukes and Nantucket Counties.

District Waterways Engineer, for Boston Harbor, — JOHN N. FERGUSON.

District Waterways Engineer, for harbors and waterways outside Boston Harbor, FRANCIS L. SELLEW.

Secretary, MARY A. RILEY.

Financial Secretary, FRED FAIR.

Registry of Motor Vehicles

Registrar, GEORGE A. PARKER¹ and MORGAN T. RYAN.²

Deputy Registrar, ANTHONY A. BONZAGNI.

Assistant to the Registrar of Motor Vehicles, ALFRED W. DEVINE.

Chief Administrative Clerk, CHARLES R. GILLEY.

Chief Inspector of Motor Vehicles, ALBERT S. OLSSON.

A detailed report of the activities of the Department for the year is presented herewith.

FRANK E. LYMAN,

December 1, 1931.

Commissioner of Public Works.

SPECIAL REPORTS TO THE LEGISLATURE

The Department was authorized and directed by the Legislature to make certain investigations, and the reports thereon were made as follows:—

The construction of a breakwater and certain marine improvements in that part of the town of Winthrop known as Winthrop Highlands. Report made Dec. 1, 1930, by the Department of Public Works, under chapter 23, Resolves of 1930. (Senate 5 of 1931).

The disposal of certain used motor vehicles and the licensing of motor vehicle junk yards. Report made Dec. 1, 1930, by the Department of Public Works, under chapter 24, Resolves of 1930. (Senate 6 of 1931.)

The improvement of highway conditions in certain cities and towns within the Metropolitan District. Report made Dec. 3, 1930, by the Department of Public Works, under chapter 48, Resolves of 1930. (Senate 330 of 1931.)

The adequacy of the terminal facilities of the Port of Boston and the advisability of the construction of a grain elevator on harbor-front property of the Commonwealth at South Boston. Report made Dec. 3, 1930, jointly by the Department of Public Works and the Boston Port Authority, under chapter 37, Resolves of 1930. (House 171 of 1931.)

¹ Resigned July 1, 1931.

² Appointed July 1, 1931.

The discharge of sewage into Boston Harbor and its tributary waters. Report made Dec. 3, 1930, by a special unpaid commission consisting of the Commissioner of Public Works, or an associate commissioner designated by him, the Commissioner of Public Health, or a representative of his department designated by him, the Health Commissioner of the city of Boston, and the Commissioner of Public Works of the city of Boston, under chapter 29, Resolves of 1929. (Senate 56 of 1931.)

The advisability of constructing a state fish pier in the city of Gloucester. Report made Dec. 22, 1930, by a special unpaid commission consisting of one member of the Senate, three members of the House of Representatives and the Commissioner and Associate Commissioners of the Department of Public Works, under chapter 32, Resolves of 1930. (House 352 of 1931.)

The advisability of filling in part of Fort Point Channel and South Bay in Boston Harbor. Report made by a special unpaid commission consisting of one member of the Senate, two members of the House of Representatives, the Commissioner of Public Works, the Commissioner of Public Health, the Chairman of the Division of Metropolitan Planning, the Chairman of the Boston City Planning Board and the Commissioner of Public Works of the city of Boston, under chapter 29, Resolves of 1930. (House 1290 of 1931.)

RECOMMENDATIONS FOR LEGISLATION

The Commissioner of Public Works presented to the State Secretary on Dec. 2, 1931, as required by law, that part of the current annual report which contains recommendations or suggestions for legislative action as follows:—

1. Continuing in Force the Registration of Motor Vehicles or Trailers in cases of Insolvency or Bankruptcy of Owners thereof

In order to "perfect" the law and validate a departmental practice in which it has been the custom in the past to allow registrations to run for the remainder of the year in cases where the owner has been petitioned into bankruptcy or insolvency, the Department recommends legislation.

2. Notices of Cancellation for Non-Payment of Insurance Premiums and the Revocation of Registrations in such cases

In order to regulate and reduce the growing number of insurance cancellation notices on account of non-payment of premiums which have the effect of making the Registry of Motor Vehicles a collection agency, legislation is recommended by the Department.

3. Establishment of Building Lines on State Highways

In order to provide adequately for future requirements for the construction or reconstruction of State highways the Department recommends that provision be made for the establishing of building lines on State highways at such locations as the Department may deem necessary.

APPROPRIATIONS

Chapter 245, Acts of 1931, making appropriations for the maintenance of departments, boards, commissions, institutions and certain activities of the Commonwealth, etc., is, in part, as follows:—

Item *Requirements for Extinguishing the State Debt*

214. For sinking fund requirements and for certain serial bonds maturing during the present year, the sum of seven hundred fifteen thousand five hundred sixty-six dollars and fifty cents, payable from the following accounts and funds in the following amounts:—from the balance of the receipts of the sale of the Boston dry dock, two hundred sixteen thousand seven hundred ninety dollars and thirty-five cents; from the Highway Fund, the sum of two hundred seventy-three thousand five hundred sixty-six dollars and fifty cents; and the remainder from the General Fund.

\$715,566 50

Item

Interest on the Public Debt

215. For the payment of interest on the direct debt of the commonwealth, a sum not exceeding eight hundred forty-four thousand one hundred forty dollars and seventy-five cents, of which sum two hundred eighty-three thousand four hundred fifty-six dollars and twenty-five cents shall be paid from the Highway Fund \$844,140 75

Service of the Department of Banking and Insurance

Division of Insurance:

292. For other personal services of the division, including expenses of the board of appeal and certain other costs of supervising motor vehicle liability insurance, a sum not exceeding one hundred ninety thousand dollars, of which sum not more than twenty-eight dollars may be charged to the Highway Fund 190,000 00

Service of the Department of Corporations and Taxation

Corporation and Tax Divisions:

300. For the salaries of certain positions filled by the commissioner, with the approval of the governor and council, and for additional clerical and other assistance, a sum not exceeding two hundred twenty-two thousand dollars, of which sum not more than twenty thousand dollars may be charged to the Highway Fund to cover the estimated cost of collection of the gasoline tax, so-called 222,000 00

Service of the Department of Public Safety

Division of State Police:

582. For the salaries of officers, including detectives, a sum not exceeding four hundred ten thousand dollars, of which sum not more than one hundred forty-nine thousand dollars may be charged to the Highway Fund 410,000 00
584. For other necessary expenses of the uniformed division, a sum not exceeding three hundred seventy-two thousand dollars, of which sum not more than one hundred forty-eight thousand seven hundred and thirty dollars may be charged to the Highway Fund 372,000 00

Service of the Department of Public Works

The appropriations made in the following three items are to be paid two thirds from the Highway Fund and one third from the Port of Boston receipts:

604. For the salaries of the commissioner and the associate commissioners, a sum not exceeding nineteen thousand five hundred dollars 19,500 00
605. For personal services of clerks and assistants to the commissioner, a sum not exceeding ninety-one hundred and forty dollars 9,140 00
606. For traveling expenses of the commissioners, a sum not exceeding three thousand dollars 3,000 00
- Functions of the department relating to highways (the following appropriations, except as otherwise provided, are made from the Highway Fund):
607. For the personal services of the chief engineer, engineers and office assistants, including certain clerks and stenographers, a sum not exceeding eighty-nine thousand dollars 89,000 00
608. For services other than personal, including printing pamphlet of laws and the annual report, and necessary office supplies and equipment, a sum not exceeding eleven thousand dollars 11,000 00

Item

609.	For the suppression of gypsy and brown tail moths on state highways, a sum not exceeding thirteen thousand dollars.	\$13,000 00
610.	For the construction and repair of town and county ways, a sum not exceeding two million five hundred thousand dollars	2,500,000 00
611.	For aiding towns in the repair and improvement of public ways, a sum not exceeding one million one hundred seventy-five thousand dollars	1,175,000 00
611a.	For payments to the cities and certain towns of the commonwealth, as authorized by section seven of chapter one hundred and twenty-two of the acts of the present year, a sum not exceeding two million five hundred thousand dollars	2,500,000 00
612.	For the maintenance and repair of state highways, including care of snow on highways, expenses of traffic signs and lights, and payment of damages caused by defects in state highways, with the approval of the attorney general, and for care and repair of road-building machinery, a sum not exceeding five million two hundred thousand dollars.	5,200,000 00
613.	For the purpose of enabling the department of public works to secure federal aid for the construction of highways, a sum not exceeding two million four hundred eighty thousand dollars	2,480,000 00
614.	For administering the law relative to advertising signs near highways, a sum not exceeding seventeen thousand dollars, to be paid from the General Fund	17,000 00
615.	For expenses of studies and for necessary payments during this fiscal year on account of any of the first twenty-one projects for the abolition of grade crossings contained in the program approved by the department of public utilities, as authorized by sections sixty-five to eighty, inclusive, of chapter one hundred and fifty-nine of the General Laws, as amended, a sum not exceeding seven hundred thousand dollars; and in addition thereto the sum of three hundred nineteen thousand one hundred thirteen dollars and thirty-four cents now in the treasury from the proceeds of the last issue of bonds by the commonwealth for the abolition of grade crossings is hereby made available for expenditures authorized by said sections with the approval of the department of public works; and any unexpended balance remaining at the end of the current fiscal year may be used in the succeeding year	700,000 00
Registration of Motor Vehicles:		
616.	For personal services, a sum not exceeding nine hundred fifty thousand dollars, of which sum ten thousand dollars may be charged to the General Fund, and the remainder shall be paid from the Highway Fund	950,000 00
617.	For services other than personal, including traveling expenses, purchase of necessary supplies and materials, including cartage and storage of the same, and for work incidental to the registration and licensing of owners and operators of motor vehicles, a sum not exceeding six hundred twenty-nine thousand dollars, to be paid from the Highway Fund.	629,000 00
618.	For printing and other expenses necessary in connection with publicity for certain safety work, a sum not exceeding twenty-five hundred dollars, to be paid from the Highway Fund	2,500 00
619.	For expenses of an investigation to provide measures for safety on the highways and for the reduction of accidents,	

Item

a sum not exceeding twenty thousand dollars, to be paid from the Highway Fund \$20,000 00

Special:

620. For expenditures by the department of public works, as authorized by chapter four hundred and twenty of the acts of nineteen hundred and thirty, a sum not exceeding one million two hundred and seventy-five thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose and to be paid from the Highway Fund 1,275,000 00
- Functions of the department relating to waterways and public lands:
621. For personal services of the chief engineer and assistants, a sum not exceeding fifty-two thousand dollars 52,000 00
622. For services other than personal, including printing pamphlet of laws and the annual report, and for necessary office and engineering supplies, and equipment, a sum not exceeding twenty-five hundred dollars 2,500 00
623. For the care and maintenance of the province lands and of the lands acquired and structures erected by the Provincetown tercentenary commission, a sum not exceeding five thousand dollars 5,000 00
624. For the maintenance of structures, and for repairing damages along the coast line or river banks of the commonwealth, and for the removal of wrecks and other obstructions from tide waters and great ponds, a sum not exceeding thirty thousand dollars 30,000 00
625. For the improvement, development and protection of rivers and harbors, tide waters and foreshores within the commonwealth, as authorized by section eleven of chapter ninety-one of the General Laws, and of great ponds, a sum not exceeding one hundred seventy-five thousand dollars, and any unexpended balance of the appropriation remaining at the end of the current fiscal year for the same purposes; provided, that all expenditures made for the protection of shores shall be upon condition that at least fifty per cent of the cost is covered by contributions from municipalities or other organizations and individuals, and that in the case of dredging channels for harbor improvements at least twenty-five per cent of the cost shall be so covered 175,000 00
626. For re-establishing and permanently marking certain triangulation points and sections, as required by order of the land court in accordance with section thirty-three of chapter ninety-one of the General Laws, as amended, a sum not exceeding one thousand dollars 1,000 00
627. For expenses of surveying certain town boundaries, by the department of public works, a sum not exceeding five hundred dollars. 500 00
628. For the supervision and operation of commonwealth pier five, including the salaries or other compensation of employees, and for the repair and replacement of equipment and other property, a sum not exceeding one hundred twelve thousand dollars, to be paid from the Port of Boston receipts 112,000 00
629. For the maintenance of pier one, at East Boston, a sum not exceeding eight thousand dollars, to be paid from the Port of Boston receipts 8,000 00
630. For the maintenance and improvement of commonwealth property under the control of the department in connection

Item

	with its functions relating to waterways and public lands, a sum not exceeding one hundred thousand dollars, to be paid from the Port of Boston receipts	\$100,000 00
631.	For the operation and maintenance of the New Bedford state pier, a sum not exceeding four thousand dollars	4,000 00
632.	For the compensation of dumping inspectors, a sum not exceeding three thousand dollars	3,000 00
633.	For continuing the work in gauging the flow of water in the streams of the commonwealth, a sum not exceeding five thousand dollars	5,000 00
	Specials:	
634.	For dredging channels and filling flats, a sum not exceeding one hundred ten thousand dollars to be paid from the, Port of Boston receipts and to be in addition to any amount heretofore appropriated for the purpose	110,000 00
635.	For the maintenance and repair of certain property in the town of Plymouth, a sum not exceeding four thousand dollars	4,000 00
636.	For the construction of railroads and piers and for the development of land at South Boston and East Boston, a sum not exceeding twenty thousand dollars, to be paid from the Port of Boston receipts and to be in addition to any amount heretofore appropriated for the purpose	20,000 00
637.	For the purchase of certain land formerly owned by the commonwealth, a sum not exceeding twenty thousand dollars, to be paid from the Port of Boston receipts	20,000 00
638.	For the expense of work authorized by chapter four hundred and five of the acts of nineteen hundred and thirty, a sum not exceeding seventy thousand dollars	70,000 00

The following four items are to be paid from the Highway Fund, with the approval of the Metropolitan District Commission:

661.	For maintenance of boulevards and parkways, a sum not exceeding six hundred eight thousand dollars	\$608,000 00
662.	For resurfacing of boulevards and parkways, a sum not exceeding three hundred thousand dollars	300,000 00
663.	For certain improvements in the Charles River basin, as authorized by chapter three hundred and seventy-one of the acts of nineteen hundred and twenty-nine, a sum not exceeding one hundred fifty-five thousand dollars, representing the state's portion of the cost of such improvements required for the current year, the same to be in addition to any amount heretofore appropriated for the purpose	155,000 00
664.	For maintenance of Wellington bridge, with the approval of the metropolitan district commission, a sum not exceeding fifty-five hundred dollars	5,500 00

Department of Public Works

For	administering the law relative to advertising signs near highways, the sum of seventeen hundred eighty-two dollars and seventy-one cents, to be paid from the General Fund	1,782 71
For	the maintenance and repair of state highways, including care of snow on highways, expenses of traffic signs and lights, and payment of damages caused by defects in state highways, with the approval of the attorney general, and for care and repair of road-building machinery, the sum of eighty-five dollars, to be paid from the Highway Fund	85 00

Item

Chapter 460, Acts of 1931, in addition to the general appropriation act making appropriations to supplement certain items contained therein, and for certain new activities and projects, is, in part, as follows:—

Service of the Department of Corporations and Taxation

Corporation and Tax Divisions:

- | | | |
|------|---|------------|
| 300. | For the salaries of certain positions filled by the commissioner, with the approval of the governor and council, and for additional clerical and other assistance, a sum not exceeding fifteen hundred dollars, to be charged to the Highway Fund to cover the estimated cost of collection of the gasoline tax, so-called, and to be in addition to any amount heretofore appropriated for the purpose | \$1,500 00 |
| 301. | For traveling expenses, a sum not exceeding one thousand dollars, to be charged to the Highway Fund to cover the estimated cost of collection of the gasoline tax, so-called, and to be in addition to any amount heretofore appropriated for the purpose | 1,000 00 |

For the Service of the Department of Public Works

Functions of the department relating to highways (the following appropriations are made from the Highway Fund):

- | | | |
|-------|--|------------|
| 610. | For the construction and repair of town and county ways, a sum not exceeding two hundred thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose and to cover the cost of any work done in the city of Revere during the present year | 200,000 00 |
| 612. | The appropriation heretofore made under this item is hereby changed to include the expense of lighting any road authorized by law. | |
| 615a. | For expenses of an investigation relative to the advisability of constructing certain highways, as authorized by chapter thirty-two of the resolves of the present year, a sum not exceeding twelve thousand dollars | 12,000 00 |
| 615b. | For expenses authorized by law relative to preliminary estimates and plans for the construction of a bridge over the Saugus river between Point of Pines and the state highway leading to Lynn, a sum not exceeding seventy thousand dollars | 70,000 00 |
| 615c. | For expenses of a study relative to a bridge over Weymouth Fore river, a sum not exceeding ten thousand dollars | 10,000 00 |

Registration of Motor Vehicles:

- | | | |
|------|--|----------|
| 616. | For personal services, a sum not exceeding three thousand dollars, to be paid from the Highway Fund and to be in addition to any amount heretofore appropriated for the purpose | 3,000 00 |
| 617. | For services other than personal, including traveling expenses, purchase of necessary supplies and materials, including cartage and storage of the same, and for work incidental to the registration and licensing of owners and operators of motor vehicles, a sum not exceeding six thousand dollars, to be paid from the Highway Fund and to be in addition to any amount heretofore appropriated for the purpose | 6,000 00 |

Functions of the department relating to waterways and public lands:

- | | | |
|-------|--|-----------|
| 625a. | For expenses of building an addition and for improvements to the state pier at New Bedford, a sum not exceeding fifty thousand dollars | 50,000 00 |
|-------|--|-----------|

Item

625b.	For expenses of constructing sea walls and shore protection in the town of Marshfield, as authorized by and subject to the conditions specified in a certain act of the present year, a sum not exceeding one hundred thousand dollars.	\$100,000 00
625c.	For expenses of constructing sea walls and shore protection in the town of Scituate, as authorized by and subject to the conditions specified in a certain act of the present year, a sum not exceeding thirty-seven thousand five hundred dollars	37,500 00
627.	For expenses of surveying certain town boundaries, by the department of public works, a sum not exceeding one thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose	1,000 00
<i>Service of Metropolitan Boulevards (Highway Fund)</i>		
661a.	For certain expenses incurred in previous years for the maintenance of boulevards, a sum not exceeding fifty-eight hundred and fifty dollars, to be paid from the Highway Fund	5,850 00
661b.	For the construction of certain boulevards by the metropolitan district commission, as authorized by a certain act of the present year, a sum not exceeding two hundred seventy-five thousand dollars, to be paid from the Highway Fund.	275,000 00

Unclassified Accounts and Claims

677.	For the payment of claims authorized by certain resolves of the present year, a sum not exceeding eleven thousand six hundred seventy-three dollars and forty-two cents, of which sixty-five hundred fifty-nine dollars and ninety-four cents shall be charged to the Highway Fund. Said payments shall be certified by the comptroller of the commonwealth only upon the filing of satisfactory releases or other evidence that the payments are accepted in full compensation on the part of the commonwealth in respect thereto	11,673 42
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OTHER APPROPRIATIONS

625d.	For the construction of a breakwater or other means of protection for property along the water front in the Hough's Neck section of the city of Quincy, a sum not exceeding twenty thousand dollars, provided, that before any work is done by the department of public works the county of Norfolk and the city of Quincy shall contribute the sum of ten thousand dollars each, and pay the same into the treasury of the commonwealth, to be used in addition to the twenty thousand dollars hereby appropriated by the commonwealth	20,000 00
625e.	For the construction of a breakwater or other means of protection for property at or near Long Beach in the town of Rockport, a sum not exceeding twenty-five thousand dollars, provided that before any work is done by the department of public works the town of Rockport shall contribute and pay into the treasury of the commonwealth the sum of twenty-five thousand dollars, to be used in addition to the twenty-five thousand dollars hereby appropriated by the commonwealth.	25,000 00

Attorney General's Department:

615d.	For the construction of a state highway in the city of Revere, as provided by a law of the present year, a sum not exceeding twenty-five thousand dollars, to be paid from the Highway Fund	25,000 00
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Item

DEFICIENCIES

Service of the Department of Public Works

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| For the maintenance and repair of state highways, including care of snow on highways, expenses of traffic signs and lights, and payment of damages caused by defects in state highways, with the approval of the attorney general, and for care and repair of road-building machinery, the sum of one hundred thirty-eight dollars and sixty-one cents, to be paid from the Highway Fund | 138 61 |
| For the purpose of enabling the department of public works to secure federal aid for the construction of highways, the sum of one hundred eighty-one dollars and fifty cents, to be paid from the Highway Fund | 181 50 |

SECTION 3. The following changes and transfers, unless otherwise specified, are hereby made in chapter 245 of the acts of the present year (general appropriation act), and are, in part, as follows:—

Payment to towns entitled to aid for repair and improvement of public ways, etc.:

611. There shall be paid from this item on or after June first, of the current year, without further contract, to all towns entitled to aid for repair and improvement of public ways under section twenty-six of chapter eighty-one of the General Laws, as amended, a sum aggregating two hundred twenty thousand seven hundred and fifty dollars, the amounts so paid being payments referred to under provisions of section seven of chapter one hundred and twenty-two of the acts of the present year.

Item 612 amended:

612. This item is hereby amended by inserting after the word “machinery” the words:—and for the purchase and improvement of a nursery for roadside planting.

Item 625 amended:

625. This item is hereby amended by inserting after the word “year” in the eighth line the words:—may be expended in the succeeding fiscal year.

Chapter 465, Acts of 1931 (Extra Session), making appropriations for the employment of additional persons as a measure of relief during the present unemployment emergency.

SECTION 1. To provide for the employment of additional labor and other personal services as a measure of relief during the present emergency caused by unemployment, the sums set forth in section two, for the several purposes and subject to the conditions therein specified, are hereby appropriated from the general fund or revenue of the commonwealth unless some other source of revenue is expressed, subject to the provisions of law regulating the disbursement of public funds and the approval thereof.

SECTION 2.

Service of the Department of Public Works

Item A:

- | | |
|---|-------------|
| For removing the abandoned hulks or wrecks lying along the waterfront of East Boston and Chelsea Creek, a sum not exceeding sixty-five thousand dollars | \$65,000 00 |
|---|-------------|

FINANCIAL STATEMENTS

Summary of Income, Year Ending November 30, 1931

HIGHWAY FUND

*Section 34, Chapter 90, General Laws, as amended
(See Chapter 288, Acts of 1925.)*

Fees (for registration of motor vehicles, licenses to operate, etc.) and fines (penalties, Sundry Courts), gross receipts	\$6,901,140 06	
Gasoline tax, gross	13,936,029 92	
Contributions for highways and assessments (G. L., Ch. 81)	459,059 81	
Appropriation balances of previous years reverting	95	
Contributions and refunds	67,557 30	
Sale of old materials and buildings	1,066 80	
Reimbursement for repairs to guard rail and other property	8,788 43	
		\$21,373,643 27
Less—Refunded receipts		314,388 88
		\$21,059,254 39

PORT OF BOSTON FUND

Chapter 91, General Laws

Rents (leases and permits)	\$199,723 61	
Refunds of previous years	8 98	
Reimbursement for services (inspection of dumping dredged material in Boston Harbor)	411 94	
Use of Commonwealth Pier No. 5 (wharfage, dockage, rentals, etc.)	193,452 29	
Use of Commonwealth Pier No. 1 (rentals, etc.)	551 07	
Use of Hayward Creek Property (rentals)	112 00	
Revenue from permits for dumping dredged material at receiving basins	1,011 78	
License charges (for tidewater displacement and occupying Commonwealth tide lands) Boston Harbor	41,669 69	
Telephone pay station receipts	100 86	
Sales of land, South Boston	1 00	
Sales of Boston Harbor maps	13 75	
		\$437,056 97

DEPARTMENT INCOME

(Ordinary Revenue)

Highway and Route Maps and bulletins	\$28 25	
Reimbursement for services (heating D Street Building)	174 00	
Sales (specifications and plans for contracts)	1,039 00	
Sale of land	250 00	
Interest on Bank accounts	831 69	
Aircraft licenses	942 00	
Reimbursement for services (inspection of dumping dredged material outside of Boston Harbor, ch. 196, Acts of 1925)	380 76	
Penalty for violation of aircraft laws	50 00	
License charges (for tidewater displacement and occupying Commonwealth tide lands) outside of Boston Harbor	6,981 26	
Certified copying charges	148 00	
Sale of Atlas sheets and miscellaneous plans	950 00	
Use of Province Lands (S 25, C. 91, G. L.)	298 35	
Permits for advertising signs	14,278 20	
Use of New Bedford State Pier	6,000 00	
		\$32,351 51

IMPROVEMENT OF RIVERS AND HARBORS TRUST

((Sections 11, 29, chapter 91, General Laws)

Contributions from towns, individuals or others \$142,476 14

HIGHWAY TRUST

(Section 30, Chapter 81, General Laws)

Federal Aid (reimbursement from United States Government) \$4,053,410 22

Funds Contributed for Work under Special Acts

Contribution by Town of Hull (Chap. 119, Acts of 1931)	\$150,000 00	
Contribution by Town of Marshfield (Ch. 407, Acts of 1931)	66,666 00	
Contribution by County of Plymouth, (Ch. 407, Acts of 1931)	33,334 00	
Contribution by County of Plymouth, (Ch. 424, Acts of 1931)	12,500 00	
Contribution by Town of Scituate, (Ch. 424, Acts of 1931)	25,000 00	
Contribution by City of Taunton, (Ch. 405, Acts of 1930)	30,000 00	
Contribution by Town of Rockport, (Ch. 460, Acts of 1931)	25,000 00	
		\$342,500 00
Total		\$26,067,049 23

Expenditures

The expenditures by the Department under the provisions of General Laws and other acts and the appropriation acts, chapters 245, 460 and 465, Acts of 1931, during the fiscal year ending Nov. 30, 1931, were as follows:

ADMINISTRATIVE

Commissioners, Associate Commissioners, personal services of clerks, stenographers, and commissioners' travel	\$30,356 13	
Public Works Department Building, land and services	191,526 00	
		\$221,882 13

RELATING TO HIGHWAYS

<i>Personal Services</i> —Chief Engineer, clerks, and stenographers		\$88,478 99
<i>State Highways—Construction</i> (Chapter 81, G. L.)		
General Contract Work	\$5,259,067 08	
Engineering (Supervision)	726,206 47	
Rent of office, Commonwealth Pier 5	7,500 00	
Highway Testing Laboratory	15,184 18	
Hingham-Hull (Chap. 119, Acts of 1931)	329,168 05	
		6,337,125 78
<i>Maintenance and Repair of State Highways</i> (Chapter 81, General Laws)		
<i>Reconstruction of State Highways</i>		
General Contract Work	\$4,272,059 51	
Engineering, supervision on reconstruction	485,608 34	
		4,757,667 85

Ordinary Maintenance

General Maintenance	\$1,353,599	35
Engineering (supervision)	315,060	93
Highway Testing Laboratory	13,572	31
Care and repair of road building machinery	337,726	03
Removal of snow from highways	509,750	22
Roadside planting and development	68,120	58
Traffic, engineering, signs and traffic count	165,614	34
Paint manufacture	30,512	40
Newburyport Bridge, Salisbury-Newburyport, over Merrimack River, maintenance and operation	7,773	97
Brightman St. Bridge, Fall River-Somerset, maintenance and operation	13,444	24
New Bedford-Fairhaven Bridge, Achushnet River (Chapter 426, Acts of 1930)	22,762	93
Tercentenary signs on highways (Chapter 10, Resolves of 1930)	635	96
Route and detour maps	5,715	93
Rent for offices at Commonwealth Pier 5	7,500	00
Rent for offices at D Street	12,500	00
Additional office at Commonwealth Pier 5	3,711	29

 \$2,868,000 48

Construction and Repair of Town and County Ways
(Section 34, Chapter 90, General Laws) State's
expenditure for work contracted for in cities and
towns

Engineering and expense (supervision)	\$2,359,578	34
	516,812	02

 \$2,876,390 36

*Aiding Towns in the Repair and Improvement of
Public Ways* (Section 26, Chapter 81, General
Laws, as amended)

State's expenditures for work contracted for in cities and towns	\$871,852	63
Engineering and expense (supervision)	74,019	83

 \$945,872 46
Special Acts:

Expenditures under the provisions of Chapter 177, Acts of 1931		\$2,142,900 91
Distribution of gasoline tax to towns receiving aid under the provisions of Section 4 (Chapter 122, Acts of 1931)		2,500,000 00
Distribution of gasoline tax to towns receiving aid under the provisions of Section 4, Chapter 122, Acts of 1931 (Sec. 26, Ch. 81)		220,750 00
<i>Incidentals</i> (printing, postage, supplies, etc.)		11,178 10
<i>Advertising signs, regulation of personal services and expenses</i>		19,061 97
<i>Southern Traffic Route Construction</i> (Chapter 330 and 344, Acts of 1925, and Section 4, Chapter 369 and 398, Acts of 1926) Engineering and awards		101 27
<i>Traffic Artery</i> in City of Cambridge, connecting Ale- wife Brook Parkway and Fresh Pond Parkway (Chapter 366, Acts of 1928)		75
<i>Public Highway</i> , shore of Dorchester Bay, Quincy, (Chapter 259, Acts of 1928)		1,005 73
<i>Highways in Malden, Braintree, Weymouth and Hingham</i> <i>Hingham, Braintree and Weymouth</i>	\$16,677	83
Malden	2,139	02

 \$18,816 85

<i>Bridges over location of Southern New England Railroad, repairs</i> (Chapter 308, Acts of 1930)	\$6,290 50
<i>Removal of Bridges, Palmer, Ludlow and Belcher-town</i> (Chapter 388, Acts of 1930)	8,704 60
<i>Highways in Metropolitan District</i> (Ch. 420, Acts of 1930)	
Section 1. Canton, Dedham, Wellesley, etc.	\$240,477 31
Section 2. Canterbury Street, Boston	30,972 86
Section 3. Land taking—Neponset River, Milton	22,483 52
Section 4. West Roxbury—Brookline Parkway	25,398 91
Section 5. Broadway, Revere Beach Parkway—grade separation, Everett	178,590 45
	<hr/>
	497,923 05
<i>Abolition of Grade Crossings</i> (Ch. 420, Acts of 1931).	93,736 28
Study Weymouth Fore River Bridge (Resolves 54, Chapter 460, Acts of 1931)	1,688 78
<i>Plans for new Saugus River Bridge</i> (Resolves 51, Chapter 460, Acts of 1931)	44,936 24
<i>State Highway—Revere</i> (Chapter 445, Acts of 1931)	3,959 80
<i>Suppression of gypsy and brown tail moths on State highways, in cities and towns</i>	12,985 25
	<hr/>
<i>Total Expenditures for Highways</i>	\$23,457,576 00

EXPENDITURES RELATING TO THE REGISTRY OF MOTOR VEHICLES

The cost of running the Registry of Motor Vehicles	\$1,580,903 40
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SUMMARY OF EXPENDITURES RELATING TO WATERWAYS

General expenses	\$54,387 45
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Boston Harbor:

Maintenance and operation, Commonwealth Pier 1, East Boston	7,911 00
Maintenance and operation, Commonwealth Pier 5, South Boston	115,067 15
Maintenance of property	87,216 37
Dredging and filling	180,783 93
Streets, piers and railroads	14,760 24
Dredging Savin Hill Bay	4,471 58
Purchase of land, South Boston	20,000 00
Removal of hulks, East Boston (Ch. 465, Acts of 1931)	66 85

Outside of Boston Harbor:

Improvement of rivers and harbors	331,477 82
Repairing damages to shore	23,277 94
New Bedford State Pier, operation and maintenance	3,788 89
Construction and alterations	42,638 30
Expenses of province lands	5,000 00
Expenses of Plymouth property	4,713 89
Topographical survey	987 99
Stream gauging	5,134 52
Surveying state and town boundaries	1,285 17
Compensation for services of dumping inspectors	654 12
Chapter 300, Acts of 1930, Dike Province Lands	5,719 18
Chapter 407, Acts of 1931, Marshfield shore protection	96,273 53
Chapter 424, Acts of 1931, Scituate shore protection	56,708 11
Long Beach, Rockport	42,609 43
Chapter 405, Acts of 1931, Taunton River improvement	1,085 28

Total	<hr/> \$1,106,018 74
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SUMMARY OF EXPENDITURES BY DEPARTMENT FOR YEAR ENDING NOVEMBER 30,
1931

Administrative	\$221,882 13
Relating to Highways.	23,457,576 00
Registry of Motor Vehicles	1,580,903 40
Relating to Waterways	1,106,018 74
Total	<hr/> \$26,366,380 27

COOPERATIVE WORK — SUPERVISION OF EXPENDITURES

The Department has supervised the expenditures during the year by cities, towns and counties, under chapter 81, General Laws, as amended, of approximately \$3,754,435.80 for cooperative work, in repairing, maintaining and improving certain public ways, and for other road work for which the towns and cities made contributions. All such work was carried out in conformity with contracts, specifications and plans approved by the Department.

Relating to Highways

GENERAL STATEMENT

State Highways. — During the year ending Nov. 30, 1931, the Department laid out new State highways amounting to 102.148 miles of highways in 65 cities and towns. Under chapter 81, General Laws, as amended by chapter 427, Acts of 1931, 1.175 miles of State highways were discontinued or abandoned. The total length of State highways at the end of the year was 1,769.669 miles. Work was completed on 65.028 miles of State highways, portions of which were laid out in 1930.

Highways Constructed in 1931. — Construction has been completed on 65.028 miles of State highways, 208.925 miles of highways under the provisions of section 34, chapter 90, General Laws, as amended, and 12.362 miles of highways under the provisions of special acts, making a total of 286.315 miles completed during the year.

Of the above highways completed this year 19.470 miles were of gravel; 16.236 miles were of bituminous concrete; 120.255 miles were of bituminous macadam; 37.168 miles were of reinforced concrete; 53.879 miles were of gravel with a bituminous treatment; 4.823 miles were of dual type (reinforced cement concrete and bituminous macadam); 0.108 miles were of waterbound macadam with a bituminous treatment; 33.604 miles were of bituminous concrete (retread method); 0.772 miles were of sheet cement concrete.

Resurfacing, Reconstruction and Widening of State Highways. — During the year 36.204 miles of State highways were widened, but not resurfaced, and 64.524 miles were resurfaced or reconstructed and widened. These figures are for completed work. There is uncompleted work in various stages on a number of miles of road where the work will be completed next year.

Of the roads resurfaced or reconstructed this year, 37.009 miles were of bituminous macadam, 9.574 miles were of bituminous concrete, 5.665 miles were of reinforced concrete, 9.742 miles were of dual type (reinforced cement concrete and bituminous macadam), 2.534 miles were of bituminous concrete (retread method).

Surveys, Plans and Estimates. — During the year preliminary surveys, plans and estimates were made as follows:

For State Highway Construction. — Preliminary surveys in 45 towns, 83.264 miles; plans in 34 towns, 66.868 miles; preliminary estimates in 39 towns, 72.677 miles; lines and grades in 56 towns, 98.607 miles and final surveys in 33 towns, 64.491 miles.

For State Highway Reconstruction and Resurfacing. — Preliminary surveys in 49 towns, 72.250 miles; plans in 42 towns, 71.972 miles; preliminary estimates in 39 towns, 65.268 miles; lines and grades in 49 towns, 87.253 miles; final surveys in 35 towns, 63.620 miles.

Under section 34, Chapter 90, General Laws, as amended. — Preliminary surveys in 178 towns, 234.464 miles; plans in 151 towns, 220.098 miles; preliminary estimates in 160 towns, 152.340 miles; lines and grades in 212 towns, 208.969 miles; final surveys in 111 towns, 117.034 miles.

Under the provisions of various Acts and Resolves, surveys were made as follows:

Chapter 445, Acts of 1931: Section 1, — 0.60 miles of preliminary survey and plans in 1 city; Section 2, — 0.60 miles of preliminary survey and plans in 1 city; Section 3, — 0.611 miles of preliminary survey and plans in 1 city.

Chapter 420, Acts of 1930: Section 1, — 12.275 miles of reconnaissance survey and plans in 4 towns and 1 city; 9.727 miles of preliminary survey and plans in 4 towns and 1 city; 11.05 miles of estimate in 4 towns and 1 city; Section 2, — 2.576 miles of reconnaissance survey and plans in 1 city; 7.267 miles of preliminary survey and plans in 1 city; 2.10 miles of estimate in 1 city; Section 3, — 4.044 miles of preliminary survey and plans in 1 town and 1 city; Section 4, — 4.266 miles of reconnaissance survey and plans in 1 town and 1 city; 4.967 miles of preliminary survey and plans in 1 town and 1 city; 2.713 miles of estimate in 1 town and 1 city; Section 5, — 0.454 miles of preliminary estimate, stakes and final survey in 1 city.

Chapter 38, Resolves of 1931: Section 1, — preliminary survey and plans in 1 city, 0.963 miles; Section 2, — reconnaissance survey and plans in 5 towns and 1 city, 20.05 miles.

Chapter 51, Resolves of 1931: 0.738 miles of preliminary survey and plans in 2 cities.

Chapter 54, Resolves of 1931: preliminary survey and plans in 1 town and 1 city, 0.316 miles.

Grade Crossing Elimination. — Chapter 417, Acts of 1930: 3.52 miles of preliminary survey in 5 towns; 3.37 miles of plans in 5 towns; 1.11 miles of preliminary estimate in 3 towns; 0.625 miles of lines and grades in 1 town.

Reconnaissance. — 204 miles of survey and 183 miles of plans in 81 towns.

Chapter 90 Reconnaissance. — 14 miles of survey and plans in 6 towns.

Advice to Other State Departments. — 0.284 miles of preliminary survey plans and estimate in 1 city.

Precise levels have been made, covering 892 miles in 183 towns.

Plans to accompany decrees for street railway locations on State highways have been made in 3 towns.

Permits. — There were 2,126 permits issued during the year for opening or occupying State highways for various purposes.

Engineering Advice to Municipal Authorities. — The Department furnished without charge engineering advice to 27 cities and towns in accordance with the provisions of section 1, chapter 81, General Laws.

Approval of Specifications. — The Department approved during the year, under the provisions of section 7, chapter 44, General Laws, as amended, specifications for the construction of roads in 28 towns and cities.

Approval of Bridge Plans. — The Department approved during the year, under the provisions of chapter 313, Acts of 1923, plans for the construction of bridges in 10 towns and cities.

PETITIONS, MEETINGS AND HEARINGS

In addition to the regular weekly meetings of the Department throughout the year, numerous hearings and conferences have been held, including the annual hearings in the several counties in the Commonwealth for the open discussion of questions relating to the public ways, as required by section 1, chapter 81, General Laws; hearings on petitions for the amendment or revision of permits for the operation of bus lines in 13 cases; appeals from the action taken by the Registrar of Motor Vehicles in the suspension or revocation of certain licenses to operate motor vehicles in 59 cases; on the matter of outdoor advertising in 5 towns and cities; on the matter of special regulations for motor vehicles in Medford, Milton, Revere, Reading, Falmouth, Wakefield, Chelsea and Springfield; on petitions for the relocation of street railway tracks in Dedham, Greenfield, Framingham and Natick; on a request for the re-naming of the Boston-Worcester Turnpike; and on the abolition of grade crossings in Newbury, Littleton, Norwood, Ayer, Waltham, Lincoln, Somerville and Lowell.

Petitions were received and contracts signed during the year as follows:

	Petitions	Contracts
State highways	81	88
Work under section 34, chapter 90, General Laws, as amended	16	430
Work under section 26, chapter 81, General Laws, as amended	178	178
Work under Special Act	—	5
	275	701

STATE HIGHWAYS

PETITIONS FOR STATE HIGHWAYS

General Laws, chapter 81, section 4, provides that —

“If county commissioners, aldermen or selectmen adjudge that public necessity and convenience require that the Commonwealth lay out and take charge of a new or existing way as a highway in whole or in part, in their county, city or town, they may apply, by a written petition, to the division, requesting that said way be laid out and taken charge of by the commonwealth.”

Petitions under the aforesaid section have been received during the year, as follows: —

SELECTMEN OF FOXBOROUGH. — Road locally known as Norfolk Street, extending from the dividing line between the towns of Wrentham and Foxborough, to the junction of Norfolk and Main Streets. Received Dec. 10, 1930.

SELECTMEN OF WRENTHAM. — Road locally known as Norfolk Street, extending from the dividing line between the towns of Plainville and Wrentham to the dividing line between the towns of Wrentham and Foxborough. Received Dec. 10, 1930.

SELECTMEN OF NORTH ATTLEBOROUGH. — Road locally known as Washington Street, extending from the junction of Washington and Park Streets to the dividing line between the towns of North Attleborough and Plainville. Received Dec. 12, 1930.

SELECTMEN OF PLAINVILLE. — Road locally known as Norfolk Street, extending from the dividing line between the towns of North Attleborough and Plainville to the dividing line between the towns of Plainville and Wrentham. Received Dec. 12, 1930.

SELECTMEN OF SOUTHBOROUGH. — Road locally known as the Worcester Turnpike, extending from White's Corner to the dividing line between the towns of Southborough and Framingham. Received Dec. 24, 1930.

SELECTMEN OF FRAMINGHAM. — Road locally known as the Worcester Road, extending from the dividing line between the towns of Southborough and Framingham to the westerly side of the Sudbury River Bridge. Received Dec. 31, 1930.

SELECTMEN OF LONGMEADOW. — Road extending from the intersection of the southerly line of Elm Avenue with the easterly line of Longmeadow Street, over a new location to a point on the dividing line between the towns of Longmeadow and East Longmeadow about one and one-half miles northerly from the Connecticut line. Received Jan. 29, 1931.

SELECTMEN OF FRAMINGHAM. — Road extending from a point on the Worcester Road about 1,000 feet east of the dividing line between the towns of Framingham and Southborough, westerly over a new location, across the Old Colony Railroad to the dividing line between the towns of Framingham and Southborough. Received Feb. 5, 1931.

SELECTMEN OF ERVING. — Road extending from a point on the State highway near Forest Street to the dividing line between the towns of Erving and Gill north of the junction of the Connecticut and Millers Rivers. Received Feb. 4, 1931.

SELECTMEN OF BILLERICA. — Road locally known as Boston Road, extending from the dividing line between the towns of Bedford and Billerica to the dividing line between the towns of Billerica and Chelmsford. Received Feb. 6, 1931.

SELECTMEN OF GREENFIELD. — Road extending from the dividing line between the towns of Greenfield and Gill, near Factory Village, to the junction of Gill Road and the Turners Falls Road. Received Feb. 4, 1931.

- SELECTMEN OF GILL.** — Road extending from the dividing line between the towns of Gill and Erving, north of the junction of the Connecticut and Millers Rivers to the dividing line between the towns of Gill and Greenfield, near Factory Village. Received Feb. 4, 1931.
- SELECTMEN OF SOUTHBOROUGH.** — Road extending from a point on the Framingham Road, near Willow Road, easterly over a new location to the dividing line between the towns of Framingham and Southborough. Received Feb. 4, 1931.
- SELECTMEN OF HULL.** — Road extending from Nantasket Avenue across Bay Street and along the Bay and west of the railroad to the dividing line between the towns of Hull and Hingham. Received Feb. 11, 1931.
- SELECTMEN OF HINGHAM.** — Road extending from Rockland Street, in whole or in part over a new location west of the railroad tracks, to the dividing line between the towns of Hingham and Hull. Received Feb. 11, 1931.
- SELECTMEN OF FRAMINGHAM.** — Road extending from the bridge on the Worcester Road over the Sudbury River to the dividing line between the towns of Framingham and Natick. Received Feb. 27, 1931.
- SELECTMEN OF RUSSELL.** — Road extending from the dividing line between the towns of Granville and Russell to the dividing line between the towns of Russell and Blandford. Received Feb. 25, 1931.
- SELECTMEN OF BECKET.** — Road extending from the dividing line between the towns of Becket and Otis northerly to the Bonny Rigg Four Corners. Received Feb. 25, 1931.
- SELECTMEN OF GRANVILLE.** — Road extending from the dividing line between the States of Massachusetts and Connecticut to the dividing line between the towns of Granville and Russell. Received Feb. 25, 1931.
- SELECTMEN OF OTIS.** — Road extending from the dividing line between the towns of Blandford and Otis to the dividing line between the towns of Otis and Becket. Received Feb. 25, 1931.
- SELECTMEN OF BLANDFORD.** — Road extending from the dividing line between the towns of Russell and Blandford northerly to the Woronoco-Blandford State Road. Also road extending from the northerly end of the present State highway in North Street to the dividing line between the towns of Blandford and Otis. Received Feb. 25, 1931.
- MAYOR AND ALDERMEN OF WORCESTER.** — Road extending from the dividing line between the town of Shrewsbury and the city of Worcester, near Harrington Street, to the dividing line between the city of Worcester and the town of Auburn in the southern part of the city near the Millbury line. Received Mar. 6, 1931.
- SELECTMEN OF AUBURN.** — Road extending from the dividing line between the city of Worcester and the town of Auburn in the northeastern part of the town, near the Millbury line, to a point on Southbridge Street near Tinker Hill Street in the southwestern part of the town. Received Mar. 6, 1931.
- SELECTMEN OF MILLBURY.** — Road extending from the dividing line between the city of Worcester and the town of Millbury near the point where the railroad tracks cross said line in the northerly part of the town, to a point about one mile distant northeasterly therefrom in said dividing line between the town of Millbury and the city of Worcester. Received Mar. 6, 1931.
- SELECTMEN OF SHREWSBURY.** — Road extending from the dividing line between the city of Worcester and the town of Shrewsbury near Harrington Street, to the dividing line between the towns of Shrewsbury and Northborough at a point about 600 feet south of the Worcester Turnpike. Received Mar. 6, 1931.
- SELECTMEN OF NORTHBOROUGH.** — Road extending from the dividing line between the towns of Shrewsbury and Northborough at a point about 600 feet south of the Worcester Turnpike to a point on the Boston Post Road near King Street. Received Mar. 6, 1931.
- SELECTMEN OF RICHMOND.** — Road locally known as Canaan Road extending from a point on Route No. 118 about two and a half miles from the Pittsfield line southwesterly to the New York state line. Received Mar. 9, 1931.
- SELECTMEN OF ANDOVER.** — Road extending from the dividing line between the towns of North Andover and Andover to the dividing line between the towns of Andover and Tewksbury. Received Mar. 12, 1931.

- SELECTMEN OF FOXBOROUGH.** — Road extending from the junction of Washington and Main Streets northeasterly, over Washington Street and new location to the dividing line between the towns of Foxborough and Walpole at the property now or formerly of Mary A. Pickering. Received Mar. 16, 1931.
- SELECTMEN OF SHARON.** — Road extending from the dividing line between the towns of Walpole and Sharon, at or near the property of Peterson Brothers, northeasterly over a new location to the dividing line between the towns of Sharon and Walpole, southwesterly of High Plain Street. Received Mar. 16, 1931.
- SELECTMEN OF PEMBROKE.** — Road extending from a point on Washington Street, about 4,000 feet north of Congress Street, southeasterly over a new location to the dividing line between the towns of Pembroke and Duxbury near Taylor Street. Received Mar. 12, 1931.
- SELECTMEN OF DUXBURY.** — Road extending from the dividing line between the towns of Pembroke and Duxbury near Taylor Street over a new location to a point on Summer Street near Franklin Street; also from a point on Summer Street near the Twin Schoolhouse over a new location to the dividing line between the towns of Duxbury and Kingston west of South Street. Received Mar. 12, 1931.
- SELECTMEN OF KINGSTON.** — Road extending from the dividing line between the towns of Duxbury and Kingston, west of Summer Street, over a new location to a point on Summer Street about 800 feet north of Tremont Street. Received Mar. 12, 1931.
- SELECTMEN OF FOXBOROUGH.** — Road extending from a point on Main Street near property of E. F. Kelly northwesterly, over a new location to the dividing line between the towns of Wrentham and Foxborough between Main Street and Pine Street. Received Mar. 23, 1931.
- SELECTMEN OF WRENTHAM.** — Road extending from a point on East Street near Everett Street easterly, over a new location to the dividing line between the towns of Wrentham and Foxborough between East Street and Pine Street. Received Mar. 23, 1931.
- SELECTMEN OF WALPOLE.** — Road extending from the dividing line between the towns of Foxborough and Walpole, at or near the property of Mary A. Pickering, northeasterly over a new location to the dividing line between Walpole and Norwood at a point westerly of Summer Street. Received Mar. 21, 1931.
- CITY COUNCIL OF LYNN.** — Road known locally as Walnut Street, extending from the dividing line between the city of Lynn and the town of Saugus to its intersection with Dungeon Avenue. Received Jan. 28, 1931.
- SELECTMEN OF RANDOLPH.** — Road extending from the southerly end of the 1909 section of State highway on North Main Street to the railroad bridge on said North Main Street. Received April 6, 1931.
- SELECTMEN OF NORTH ANDOVER.** — Road extending from the junction of Peters and Andover Streets northerly, over a new location, to a point on Osgood Street near the residence of Robert B. Smith. Received April 4, 1931.
- SELECTMEN OF ERVING.** — Road extending from the junction of Moore and Forest Streets southerly along Forest Street for about 1,400 feet to a point near Union Street. Received April 8, 1931.
- SELECTMEN OF DEERFIELD.** — Road extending from a point on the Greenfield Road west of the Boston & Maine Railroad bridge northerly to the dividing line between the towns of Deerfield and Greenfield. Received April 23, 1931.
- SELECTMEN OF GREENFIELD.** — Road extending from a point on the Deerfield Road west of the Boston & Maine Railroad bridge southerly to the dividing line between the towns of Greenfield and Deerfield. Received April 23, 1931.
- SELECTMEN OF LANCASTER.** — Road extending from the dividing line between the towns of Clinton and Lancaster to the dividing line between the towns of Lancaster and Bolton. Received April 24, 1931.
- SELECTMEN OF SEEKONK.** — Road extending from the junction of Fall River Avenue and Mink Street northwesterly over a new location to the dividing line between the States of Massachusetts and Rhode Island near the property now or formerly of Evan West. Received May 9, 1931.

- SELECTMEN OF MERRIMAC.** — Road extending from the easterly line of Merrimac Square, easterly along East Main Street to Mill Street. Received May 12, 1931.
- SELECTMEN OF NANTUCKET.** — Road locally known as Polpis Road extending from its junction with the State highway easterly through the village of Polpis and southeasterly to the village of Siasconset. Received May 14, 1931.
- SELECTMEN OF AMESBURY.** — Road extending from the junction of Haverhill Street and Hillside Avenue northeasterly along Haverhill Street to its junction with Main Street. Received June 3, 1931.
- SELECTMEN OF UXBRIDGE.** — Road extending from a point at or near the junction of Main Street and Ironstone Street, in a general southeasterly direction, in part over Ironstone Street and in part over new location, to the dividing line between the States of Massachusetts and Rhode Island. Received June 6, 1931.
- SELECTMEN OF CLINTON.** — Road locally known as Boylston Street, extending from the dividing line between the towns of Boylston and Clinton to the Lancaster Mills bridge or the square at the junction of Boylston Street and Cameron Street. Received June 17, 1931.
- COUNTY COMMISSIONERS OF HAMPSHIRE COUNTY.** — Road extending over a new location from a point on the Enfield Road in the town of Ware about three-fourths of a mile southerly of the dividing line between the towns of Enfield and Ware westerly through the towns of Ware and Belchertown to a point on the Enfield Road just west of the bridge over Jabish Brook. Received June 16, 1931.
- MAYOR AND CITY COUNCIL OF WESTFIELD.** — Road extending from the dividing line between the town of Southampton and city of Westfield southerly to the northerly location line of the Holyoke and Westfield Railroad. Also road extending from the dividing line between the town of Southwick and city of Westfield northerly to a point at or near the bridge over the Westfield Little River. Received June 23, 1931.
- SELECTMEN OF BOYLSTON.** — Road known locally as Main Street, extending from the dividing line between the towns of Shrewsbury and Boylston to the dividing line between the towns of Boylston and Clinton. Received June 25, 1931.
- SELECTMEN OF SHREWSBURY.** — Road known locally as Clinton Street, extending from the dividing line between the city of Worcester and the town of Shrewsbury to the dividing line between the towns of Boylston and Shrewsbury. Received July 1, 1931.
- SELECTMEN OF SPENCER.** — Road locally known as Maple Street extending from Main Street southerly to the dividing line between the towns of Spencer and Charlton. Received July 23, 1931.
- SELECTMEN OF CHARLTON.** — Road extending from Charlton Depot northerly to the dividing line between the towns of Charlton and Spencer. Received July 20, 1931.
- MAYOR AND ALDERMEN OF BROCKTON.** — Road extending from the junction of Center and Quincy Streets westerly along Center Street to its junction with Lyman Street. Received August 20, 1931.
- SELECTMEN OF NORWOOD.** — Road extending from a point on the dividing line between the towns of Walpole and Norwood about 275 feet southeasterly from the point where Union Street crosses said line northerly over a new location to a point on the dividing line between the towns of Westwood and Norwood about 900 feet easterly from the Ellis railroad station. Received Sept. 1, 1931.
- SELECTMEN OF FRAMINGHAM.** — Road extending from the junction of Fountain and Waverly Streets southwesterly along the Hartford Turnpike and/or Central Turnpike to the dividing line between the towns of Framingham and Ashland. Received Sept. 9, 1931.
- SELECTMEN OF ASHLAND.** — Road extending from the dividing line between the towns of Framingham and Ashland southwesterly along the Hartford Turnpike and/or Central Turnpike to the dividing line between the towns of Ashland and Hopkinton. Received Sept. 9, 1931.

- SELECTMEN OF HOPKINTON.** — Road extending from the dividing line between the towns of Ashland and Hopkinton southwesterly along the Hartford Turnpike and/ or Central Turnpike to the dividing line between the towns of Hopkinton and Upton. Received Sept. 9, 1931.
- SELECTMEN OF UPTON.** — Road extending from the dividing line between the towns of Hopkinton and Upton southwesterly along the Hartford Turnpike and/ or Central Turnpike to the dividing line between the towns of Upton and Northbridge. Received Sept. 9, 1931.
- SELECTMEN OF NORTHBRIDGE.** — Road extending from the dividing line between the towns of Upton and Northbridge, southwesterly along the Hartford Turnpike and/ or Central Turnpike to the dividing line between the towns of Northbridge and Sutton. Received Sept. 9, 1931.
- SELECTMEN OF SUTTON.** — Road extending from the dividing line between the towns of Northbridge and Sutton southwesterly along the Hartford Turnpike and/ or Central Turnpike to the dividing line between the towns of Sutton and Oxford. Received Sept. 9, 1931.
- SELECTMEN OF OXFORD.** — Road extending from the dividing line between the towns of Sutton and Oxford southwesterly along the Hartford Turnpike and/ or Central Turnpike to the dividing line between the towns of Oxford and Webster. Received Sept. 9, 1931.
- SELECTMEN OF WEBSTER.** — Road extending from the dividing line between the towns of Oxford and Webster, southwesterly long the Hartford Turnpike and/ or Central Turnpike to Webster Center. Received Sept. 9, 1931.
- SELECTMEN OF WILLIAMSTOWN.** — Road extending from the junction of the Cold Spring and Petersburg Mountain Roads southwesterly along the Cold Spring Road to its junction with the River Road in South Williamstown. Received Oct. 20, 1931.
- SELECTMEN OF BEDFORD AND CARLISLE.** — A bridge over the Concord River on the main road from Bedford to Carlisle at the dividing line between the towns of Carlisle and Bedford. Received Oct. 22, 1931.
- SELECTMEN OF LAKEVILLE.** — Road extending from the dividing line between the city of Taunton and town of Lakeville easterly over a new location, to the dividing line between the towns of Lakeville and Middleborough on Poquoy Trout Brook. Also road known as Bedford Street extending from the Middleborough line to Main Street. Received Oct. 21, 1931.
- SELECTMEN OF MIDDLEBOROUGH.** — Road extending from the dividing line between the towns of Middleborough and Lakeville on Poquoy Trout Brook easterly, over a new location, to the junction of Bedford Street and Grove Street Extension. Received Oct. 21, 1931.
- MAYOR AND MUNICIPAL COUNCIL OF TAUNTON.** — Road extending from the Dean Street railroad crossing easterly along Dean Street and new location to the dividing line between the city of Taunton and town of Raynham southeast of the junction of Dean and South Streets. Also road extending from the dividing line between the city of Taunton and town of Raynham, at the Taunton River, easterly over new location to the dividing line between the city of Taunton and town of Lakeville. Received Oct. 29, 1931.
- SELECTMEN OF RAYNHAM.** — Road extending from the dividing line between the city of Taunton and the town of Raynham southeast of the junction of South and Dean Streets easterly, over a new location, to the dividing line between the town of Raynham and the city of Taunton. Received Oct. 30, 1931.
- SELECTMEN OF STERLING.** — Road extending from a point on Worcester Street about 1,300 feet north of the bridge over the Boston & Maine and New Haven Railroads northerly to Pratts Corner. Received Oct. 29, 1931.
- SELECTMEN OF WEST BOYLSTON.** — Road extending from the dividing line between the town of West Boylston and the city of Worcester northerly over the location of the former Worcester Consolidated Street Railway to a junction with the main road in West Boylston Village. Received Oct. 30, 1931.
- SELECTMEN OF SCITUATE.** — Road extending from a point on the dividing line between the towns of Cohasset and Scituate about four-tenths of a mile southwest of the tracks of the New York, New Haven & Hartford Railroad Company southeasterly, in part over a new location and in part over the Tack

Pond Road, to a point on Main Street at or near its intersection with Judge Cushing Road. Received Nov. 12, 1931.

SELECTMEN OF COHASSET. — Road extending from the dividing line between the towns of Hingham and Cohasset at a point about 500 feet south of East Street southeasterly, in part over a new location and in part over King Street, to a point on the dividing line between the towns of Cohasset and Scituate about four-tenths of a mile southwest of the tracks of the New York, New Haven & Hartford Railroad Company. Received Nov. 12, 1931.

SELECTMEN OF HINGHAM. — Road extending from a point on Summer Street about 300 feet west of Green Street, easterly, over a new location, to the dividing line between the towns of Hingham and Cohasset at a point about 500 feet south of East Street. Received Nov. 12, 1931.

SELECTMEN OF WILMINGTON. — Road known locally as Lowell Street, extending from the junction of Routes 38 and 129 easterly to the dividing line between the towns of Wilmington and Reading. Received Nov. 13, 1931.

BOARD OF PUBLIC WORKS OF READING. — Road known locally as Lowell Street, extending from the dividing line between the towns of Wilmington and Reading easterly to Reading Square. Received Nov. 13, 1931.

SELECTMEN OF WORTHINGTON. — Road extending from the dividing line between the towns of Huntington and Worthington northwesterly along the Main Road to Worthington Corners. Received Nov. 17, 1931.

MAYOR AND ALDERMEN OF WORCESTER. — Road extending from West Boylston Street to the dividing line between the city of Worcester and the town of West Boylston. Received Oct. 24, 1931.

CONSTRUCTION AND RECONSTRUCTION OF STATE HIGHWAYS

(Chapter 81, General Laws, as amended)

The following contracts were entered into during the year for the construction and reconstruction of State highways, and work incidental thereto, in various municipalities: —

Wareham

Dec. 9, 1930, contract made with John Iafolla Construction Company, of Boston, for reconstructing about 9,248 feet of State highway on the Marion Road, the surface consisting of bituminous macadam. The proposal amounted to \$63,741.50. Work completed July 25, 1931. Expenditure during 1931, \$71,045.03.

Wilbraham

Dec. 9, 1930, contract made with The Lane Construction Corporation, of Meriden, Conn., for resurfacing and widening about 18,367 feet of State highway on the Boston Road, the surface consisting of reinforced cement concrete for about 8,488 feet, and bituminous concrete for about 9,879 feet. The proposal amounted to \$105,738.25. Work completed Aug. 18, 1931. Expenditure during 1931, \$111,450.61.

Monson-Palmer

Dec. 9, 1930, contract made with Patrick J. Holland, of Lawrence, for widening about 13,640 feet of State highway on the Boston Road in Monson and Palmer, the surface consisting of reinforced cement concrete. The proposal amounted to \$102,170.70. Work completed Aug. 1, 1931. Expenditure during 1931, \$114,978.56.

Shrewsbury

Dec. 9, 1930, contract made with F. Pritchard & Son, Inc., of Watertown, for moving buildings on the land of Ameen J. Antoun on the State highway in Shrewsbury, known as the Boston-Worcester Turnpike. The proposal amounted to \$17,900.00. Work completed July 3, 1931. Expenditure during 1931, \$18,000.00.

Shrewsbury

Dec. 9, 1930, contract made with John Moran, Inc., of Fitchburg, for moving buildings on the land of Walter C. Tufts on the State highway in Shrewsbury, known as the Boston-Worcester Turnpike. The proposal amounted to \$350.00. Work completed Dec. 11, 1930. Expenditure during 1930, \$350.00.

Shrewsbury

Dec. 9, 1930, contract made with John Moran, Inc., of Fitchburg, for moving buildings on the land of Lucia D'Errico on the State highway in Shrewsbury, known as the Boston-Worcester Turnpike. The proposal amounted to \$2,271.00. Work completed Mar. 20, 1931. Expenditure during 1931, \$2,271.00.

Chester-Huntington

Dec. 16, 1930, contract made with The Fitchburg Concrete Constrction Company, of Fitchburg, for constructing and reconstructing about 11,027 feet of State highway on the Jacobs Ladder, so called, in Chester, and about 8,940 feet of the same road in Huntington, the surface consisting of bituminous macadam. The proposal amounted to \$251,877.30. Work practically completed. Expenditure during 1931, \$213,500.48.

Chilmark-West Tisbury

Dec. 16, 1930, contract made with Michael F. Roach & Sons, Inc., of East Bridgewater, for reconstructing about 5,770 feet of State highway on the South Road in Chilmark, and about 7,746 feet of State highway on the same road in West Tisbury, the surface consisting of bituminous concrete. The proposal amounted to \$50,183.40. Work completed Aug. 14, 1931. Expenditure during 1931, \$51,631.01.

Sheffield

Dec. 16, 1930, contract made with the New Haven Road Construction Co., Inc., of New Haven, Conn. for reconstructing about 14,120 feet of State highway on the Ashley Falls Road, the surface consisting of reinforced cement concrete for about 10,876 feet, and bituminous macadam for about 3,244 feet. The proposal amounted to \$88,733.20. Work completed Aug. 10, 1931. Expenditure during 1931, \$89,437.08.

Bourne-Plymouth

Dec. 23, 1930, contract made with Amos D. Bridge's Sons, Inc., of Hazardville, Connecticut, for reconstructing about 4,374 feet of State highway on the Sagamore Road in Plymouth, and about 11,193 feet of State highway on the same road in Bourne, the surface consisting of bituminous concrete. The proposal amounted to \$98,553.30. Work completed July 16, 1931. Expenditure during 1931, \$105,079.04.

Barnstable

Dec. 30, 1930, contract made with The Lane Construction Corporation, of Meriden, Conn., for reconstructing about 29,800 feet of State highway on new location, the surface consisting of bituminous concrete. The proposal amounted to \$190,823.05. Work completed Nov. 30, 1931. Expenditure during 1931, \$208,509.76.

Foxborough-Wrentham-Plainville-North Attleborough

Dec. 30, 1930, contract made with D. V. Frione & Company, of New Haven, Conn., for constructing about 2,113 feet of State highway on Washington Street in North Attleborough, 16,015 feet of State highway on the same road in Plainville, 15,159 feet of State highway on the same road in Wrentham, and about 1,130 feet of State highway on Norfolk Street in Foxborough, the surface consisting of reinforced cement concrete. The proposal amounted to \$470,585.80. Work practically completed. Expenditure during 1931, \$436,687.54.

Southbridge-Sturbridge

Dec. 30, 1930, contract made with the New Haven Road Construction Co., Inc., of New Haven, Conn., for reconstructing about 2,354 feet of State highway on the Sturbridge Road in Southbridge, and about 11,567 feet of State highway on the Southbridge Road in Sturbridge, the surface consisting of bituminous macadam. The proposal amounted to \$116,782.60. Work completed Sept. 24, 1931. Expenditure during 1931, \$129,374.70.

Weston

Dec. 30, 1930, contract made with F. Pritchard & Son, Inc., of Watertown, for raising and moving a gasoline filling station on land of George R. Slader at the

junction of the Boston Post Road and Sibley Road. The proposal amounted to \$640.00. Work completed Feb. 9, 1931. Expenditure during 1931, \$678.00.

Weston

Jan. 6, 1931, contract made with Peter Salvucci, of Waltham, for constructing and reconstructing about 980 feet of State highway on Central Avenue, and about 5,305 feet of State highway on School Street, the surface consisting of bituminous macadam. The proposal amounted to \$258,457.40. Work practically completed. Expenditure during 1931, \$272,933.62.

Marlborough-Northborough

Jan. 6, 1931, contract made with B. Perini & Sons, Inc., of Ashland, for reconstructing about 13,190 feet of State highway on the Boston Post Road in Marlborough, and about 18,375 feet of State highway on the same road in Northborough, the surface on about 12,150 feet in Marlborough and about 13,525 feet in Northborough consisting of bituminous macadam between two sections of reinforced cement concrete, and the surface on about 1,040 feet in Marlborough and 4,850 feet in Northborough consisting of reinforced cement concrete. The proposal amounted to \$467,279.25. Work practically completed. Expenditure during 1931, \$456,681.45.

Hingham

Jan. 20, 1931, contract made with Bradford Weston, of Hingham, for repairing a culvert on the State highway in Hingham, known as Otis Street. Work completed Feb. 18, 1931. Expenditure during 1931, \$1,251.11.

Palmer

Feb. 3, 1931, contract made with John Moran, Inc., of Fitchburg, for moving buildings on land of John C. and Nellie S. Wilson on the State highway in Palmer, known as the Boston Post Road. The proposal amounted to \$1,675.00. Work completed June 3, 1931. Expenditure during 1931, \$1,675.00.

Fairhaven-New Bedford

Feb. 4, 1931, contract made with Coleman Bros., Incorporated, of Boston, for repairing the bridges over New Bedford Harbor in the town of Fairhaven and city of New Bedford. The proposal amounted to \$95,800.00. Work completed Oct. 20, 1931. Expenditure during 1931, \$118,239.39.

Avon

Mar. 31, 1931, contract made with James J. Gordon, of Hingham, for moving buildings on land of Frank M. Herland on the State highway in Avon, known as East Main Street. The proposal amounted to \$925.00. Work completed Apr. 29, 1931. Expenditure during 1931, \$925.00.

Framingham-Southborough

Apr. 14, 1931, contract made with B. Perini & Sons, Inc., of Ashland, for constructing a steel plate girder bridge over the tracks of the New York, New Haven & Hartford Railroad Company on the Worcester Turnpike in Framingham, a steel stringer bridge over the Reservoir in Framingham, about 7,633 feet of State highway on the Worcester Turnpike in Southborough, and about 17,166 feet of State highway on the same road in Framingham, the surface in Framingham and Southborough, except over the bridge over the tracks of the New York, New Haven & Hartford Railroad Company and about 1,550 feet of State highway in Framingham, consisting of two sections of reinforced cement concrete separated by a loam space with bituminous macadam and gravel shoulders, the surface over the bridge and between the tracks of the New York, New Haven & Hartford Railroad Company consisting of bituminous concrete, and the remaining surface in Framingham consisting of bituminous macadam. The proposal amounted to \$744,374.30. Work practically completed. Expenditure during 1931, \$660,859.56.

Northborough-Shrewsbury

Apr. 14, 1931, contract made with The Lane Construction Corporation, of Meriden, Conn., for constructing about 16,833 feet of State highway on Grafton

Street in Shrewsbury, and about 11,357 feet of State highway on the same road in Northborough, the surface consisting of reinforced cement concrete except on about 605 feet of State highway in Northborough, the surface on about 605 feet in Northborough consisting of a strip of reinforced cement concrete constructed on each side of a strip of bituminous macadam. The proposal amounted to \$446,928.60. Work practically completed. Expenditure during 1931, \$414,493.19.

Hingham-Hull

Apr. 14, 1931, contract made with The Waterbury Road Construction Company, Inc., of Hartford, Conn., for constructing about 4,034 feet of State highway on Rockland Street in Hingham, about 6,419 feet of State highway on Rockland Street, about 300 feet of State highway on Bay Street, and about 335 feet of State highway on Nantasket Avenue, in Hull, the surface consisting of bituminous macadam. The proposal amounted to \$329,073.70. Work practically completed. Expenditure during 1931, \$319,673.33.

Becket

Apr. 14, 1931, contract made with Bertolini Brothers, of New Haven, Conn., for reconstructing about 29,608 feet of State highway on the "Jacob's Ladder" Road, the surface consisting of bituminous macadam. The proposal amounted to \$327,722.45. Work practically completed. Expenditure during 1931, \$280,930.24.

Somerset-Swansea

Apr. 29, 1931, contract made with the Sherry Construction Company, Inc., of Fall River, for reconstructing and widening about 9,737 feet of State highway on Fall River Avenue in Somerset, and about 22,019 feet of State highway on the same road in Swansea, the surface consisting of reinforced cement concrete constructed on each side of the present concrete surface, except at and adjacent to the bridges, where the surface consists of bituminous macadam. Work completed Sept. 10, 1931. The proposal amounted to \$177,559.55. Expenditure during 1931, \$202,124.34.

Billerica

May 5, 1931, contract made with R. G. Watkins & Son, Inc., of Amesbury, for reconstructing about 5,450 feet of State highway on the Boston-Lowell Road in Billerica, the surface consisting of bituminous macadam. The proposal amounted to \$36,967.79. Work completed July 11, 1931. Expenditure during 1931, \$34,345.49.

Framingham

May 5, 1931, contract made with P. Fahey & Sons, of Marlborough, for moving buildings on land of Ella E. Livingston on the State highway in Framingham, known as the Worcester Turnpike. The proposal amounted to \$1,368.00. Work completed Sept. 15, 1931. Expenditure during 1931, \$1,368.00.

Huntington

May 5, 1931, contract made with Tarbell & Leete, Inc., of Springfield, for moving buildings on the State highway, known as the Chester road. The proposal amounted to \$8,499.00. Work completed July 15, 1931. Expenditure during 1931, \$9,309.00.

North Attleborough

May 5, 1931, contract made with Jeremiah O'Leary, of Sharon, for moving buildings of Alfred J. Courtney on the State highway in North Attleborough, known as the Providence Turnpike. The proposal amounted to \$1,890.00. Work completed July 10, 1931. Expenditure during 1931, \$1,890.00.

Plainville

May 5, 1931, contract made with Jeremiah O'Leary, of Sharon, for moving buildings on the State highway in Plainville, known as Washington Street. The proposal amounted to \$1,777.00. Work completed May 29, 1931. Expenditure during 1931, \$1,777.00.

Duxbury-Kingston-Pembroke

May 6, 1931, contract made with Eastern Contracting Company, of Quincy, for constructing and reconstructing about 41,665 feet of State highway in Duxbury, Kingston and Pembroke on Washington Street and new location, the surface consisting of bituminous macadam. The proposal amounted to \$318,886.70. Work about two-thirds completed. Expenditure during 1931, \$284,529.61.

North Andover

May 12, 1931, contract made with M. McDonough Company, of Saugus, for constructing and reconstructing 14,300 feet of State highway on Stevens Street and new location, the surface consisting of bituminous macadam. The proposal amounted to \$113,652.93. Work practically completed. Expenditure during 1931, \$115,551.07.

Bellingham-Mendon-Hopedale-Milford

May 12, 1931, contract made with G. Bonazzoli & Sons, of Hudson, for constructing about 1,031 feet of State highway on the Milford Road in Bellingham, reconstructing about 5,510 feet of State highway on the same road in Mendon, 8,467 feet of State highway on the same road in Hopedale, and about 8,126 feet of State highway on the same road in Milford, the surface consisting of bituminous macadam. The proposal amounted to \$180,006.90. Work practically completed. Expenditure during 1931, \$158,668.36.

Avon

May 12, 1931, contract made with Powers Brothers, of Brockton, for reconstructing about 3,250 feet of State highway on East Main Street, the surface consisting of bituminous macadam. The proposal amounted to \$24,412.90. Work completed July 31, 1931. Expenditure during 1931, \$26,488.70.

Athol

May 12, 1931, contract made with The John Turgeon Company, Inc., of Hartford, Conn., for moving buildings on land of Carroll R. Trevett on the State highway in Athol. The proposal amounted to \$1,225.00. Work completed June 30, 1931. Expenditure during 1931, \$1,225.00.

West Tisbury

May 12, 1931, contract made with Michael F. Roach & Sons, Inc., of East Bridgewater, for resurfacing about 4,127 feet of State highway on the Tisbury Road, the surface consisting of bituminous concrete. The proposal amounted to \$9,423.50. Work completed July 23, 1931. Expenditure during 1931, \$51,631.01.

Orange

May 12, 1931, contract made with John Moran, Inc., of Fitchburg, for moving buildings on land of Annie M. Bacon Heirs on the State highway in Orange, known as East Main Street. The proposal amounted to \$1,474.00. Work completed May 28, 1931. Expenditure during 1931, \$1,474.00.

Framingham

May 19, 1931, contract made with P. Fahey & Sons, of Marlborough, for moving buildings on land of Wallace A. Kendall on the State highway in Framingham, known as the Boston-Worcester Turnpike. The proposal amounted to \$1,648.00. Work completed Sept. 15, 1931. Expenditure during 1931, \$1,648.00.

Framingham

May 19, 1931, contract made with The John Cavanagh and Son Building Moving Company, of Boston, for moving buildings on land of Hanna E. Clapp on the State highway in Framingham, known as the Boston-Worcester Turnpike. The proposal amounted to \$2,650.00. Work completed Aug. 18, 1931. Expenditure during 1931, \$2,650.00.

Deerfield-Greenfield

May 19, 1931, contract made with Daniel O'Connell's Sons, Inc., of Holyoke, for constructing a steel bridge and approaches thereto on about 2,026 feet of State highway at the dividing line between the towns of Deerfield and Greenfield, the surface over the bridge consisting of bituminous concrete, and the surface of the approaches consisting of bituminous macadam. The proposal amounted to \$243,794.75. Work about three-fourths completed. Expenditure during 1931, \$179,843.14.

Salisbury

May 26, 1931, contract made with James E. Watkins Company, Inc., of Amesbury, for widening about 8,914 feet of State highway on the Newburyport Road, the surface consisting of bituminous macadam. The proposal amounted to \$16,904.00. Work completed July 18, 1931. Expenditure during 1931, \$16,315.12.

Milton-Randolph-Quincy

May 26, 1931, contract made with Ezekiel C. Sargent, of Quincy, for constructing about 5,305 feet of shoulders on the State highway in Randolph, 14,700 feet of shoulders on the State highway in Quincy, and about 1,900 feet of shoulders on the State highway in Milton, the surface consisting of bituminous macadam. The proposal amounted to \$8,693.00. Work completed Aug. 24, 1931. Expenditure during 1931, \$9,412.14.

Southborough

June 2, 1931, contract made with P. Fahey & Sons, of Marlborough, for moving buildings on land of Eugene and Mary Mauro, and Isaac and Flora Gelina, on the State highway in Southborough, known as the Boston-Worcester Turnpike. The proposal amounted to \$3,116.00. Work three-fourths completed. Expenditure during 1931, \$2,244.51.

Southborough

June 2, 1931, contract made with John Moran, Inc., of Fitchburg, for moving buildings on land of Walter E. Brewer on the State highway in Southborough, known as the Boston-Worcester Turnpike. The proposal amounted to \$1,670.00. Work completed Aug. 11, 1931. Expenditure during 1931, \$1,719.68.

Erving

June 9, 1931, contract made with the Lawton Construction Company, of Providence, R. I., for constructing a steel stringer bridge over Moore Street, a steel stringer bridge over the Central Vermont Railroad, and about 9,775 feet of State highway, the surface of the roadway consisting of bituminous macadam, and the surface over the bridges consisting of bituminous concrete. The proposal amounted to \$193,597.10. Work about two-thirds completed. Expenditure during 1931, \$135,816.04.

Southborough

June 9, 1931, contract made with P. Fahey & Sons, of Marlborough, for moving buildings on land of Arthur Brewer on the State highway in Southborough, known as the Boston-Worcester Turnpike. The proposal amounted to \$3,187.00. Work completed Oct. 31, 1931. Expenditure during 1931, \$3,187.00.

Newbury-Rowley

June 16, 1931, contract made with M. McDonough Co., of Saugus, for constructing an extension to the concrete arch bridge over the tracks of the Boston & Maine Railroad in Rowley, reconstructing about 5,237 feet of State highway on High Street in Newbury, and reconstructing about 24,411 feet of State highway on Bay Road in Rowley, the surface consisting of bituminous macadam. The proposal amounted to \$211,454.80. Work practically completed. Expenditure during 1931, \$219,592.54.

Hinsdale

June 16, 1931, contract made with the Lee Construction Co., Inc., of Boston, for constructing a steel bridge and approaches on about 1,621 feet of State highway on new location and Taylor Street, the surface except over the bridge consisting

of bituminous macadam, the surface over the bridge consisting of bituminous concrete. The proposal amounted to \$61,621.90. Work about three-fourths completed. Expenditure during 1931, \$45,805.12.

Amesbury-Merrimac-Haverhill

June 16, 1931, contract made with Patrick J. Holland, of Lawrence, for constructing and reconstructing about 42,710 feet of State highway on Amesbury Road in Haverhill, West Main and East Main Streets in Merrimac, and Haverhill Road in Amesbury, the surface consisting of bituminous macadam and reinforced cement concrete. The proposal amounted to \$135,049.80. Work completed Oct. 24, 1931. Expenditure during 1931, \$155,440.76.

Southborough

June 16, 1931, contract made with John Moran, Inc., of Fitchburg, for raising buildings of Robert H. and Edith S. Beals, and of Charles Fantony, on the State highway in Southborough. The proposal amounted to \$2,743.00. Work completed Aug. 18, 1931. Expenditure during 1931, \$2,743.00.

Bernardston

June 16, 1931, contract made with Warner Bros. and Goodwin, Inc., of Sunderland, for constructing a bridge and approaches on about 1,986 feet of State highway on Northfield Road, the surface except over the bridge consisting of bituminous macadam, the surface over the bridge consisting of bituminous concrete. The proposal amounted to \$33,662.30. Work completed Oct. 24, 1931. Expenditure during 1931, \$27,471.86.

Northborough

June 23, 1931, contract made with P. Fahey & Sons, of Marlborough, for moving buildings of Muriel Lacier, Alice I. Mellen and Margaret A. Bottger on the Boston Post Road in Northborough. The proposal amounted to \$3,338.00. Work completed Nov. 2, 1931. Expenditure during 1931, \$2,550.00.

Andover-North Reading-Reading

June 23, 1931, contract made with Patrick J. Holland, of Lawrence, for constructing and reconstructing about 14,103 feet of State highway on North Main Street in Reading, 13,462 feet of State highway on the same road in North Reading, and 2,400 feet of State highway on the same road in Andover, including a bridge over Main Street in Andover, the surface, except over the bridge and about 1,675 feet of State highway in Andover, consisting of bituminous macadam between two sections of reinforced cement concrete, the surface over the bridge in Andover consisting of bituminous concrete, and the surface on 1,675 feet of State highway in Andover consisting of reinforced cement concrete. The proposal amounted to \$368,005.40. Work practically completed. Expenditure during 1931, \$423,976.24.

Framingham-Southborough

June 30, 1931, contract made with P. Fahey & Sons, of Marlborough, for moving buildings of Charles and Carolina Brusie on the State highway, known as the Boston-Worcester Turnpike, in Southborough, and of Katherine C. Warner on the same road in Framingham. The proposal amounted to \$1,325.00. Work about two-thirds completed. Expenditure during 1931, \$832.32.

Groton-Pepperell

June 30, 1931, contract made with D. and C. Construction Company, of Fitchburg, for reconstructing about 7,276 feet of State highway on Main Street in Groton, and about 1,317 feet of State highway on South Street in Pepperell, the surface consisting of bituminous macadam. The proposal amounted to \$80,800.00. Work about one-half completed. Expenditure during 1931, \$53,715.44.

Kingston

June 30, 1931, contract made with C. A. Batson Company, of Brockton, for moving buildings of Abbie Randall on Summer Street in the town of Kingston.

The proposal amounted to \$2,695.00. Work completed Sept. 25, 1931. Expenditure during 1931, \$2,772.36.

Abington-Brockton

June 30, 1931, contract made with Corrado & Lepore Construction Company, of Providence, R. I., for reconstructing about 3,467 feet of State highway on Center Street in Brockton, and constructing and reconstructing about 9,622 feet of State highway on Brockton Avenue in Abington, the surface consisting of bituminous macadam. The proposal amounted to \$79,890.20. Work completed Nov. 20, 1931. Expenditure during 1931, \$80,558.15.

Erving

July 14, 1931, contract made with John Moran, Inc., of Fitchburg, for moving dwelling of Alice F. Prouty on the State highway in Erving. The proposal amounted to \$2,670.00. Work completed Aug. 15, 1931. Expenditure during 1931, \$2,670.00.

Foxborough-Sharon-Walpole-Wrentham

July 21, 1931, contract made with State Construction Co., Inc., of Saugus, for constructing about 14,995 feet of State highway, including three bridges, in Foxborough, 6,762 feet of State highway in Walpole, 3,675 feet of State highway in Sharon, and 2,316 feet of State highway in Wrentham, the surface, except over the bridges and on about 2,316 feet of State highway in Wrentham and about 2,629 feet of State highway in Foxborough, consisting of reinforced cement concrete, the surface on about 2,316 feet of State highway in Wrentham and on about 2,629 feet of State highway in Foxborough consisting of bituminous macadam, and the surface over the bridges consisting of bituminous concrete. The proposal amounted to \$441,548.10. Work about one-half completed. Expenditure during 1931, \$210,186.95.

Deerfield

July 28, 1931, contract made with The John Turgeon Co., Inc., of Hartford, Conn., for moving building of Francesco Bartugno on the State highway in Deerfield. The proposal amounted to \$2,150.00. Work completed Sept. 25, 1931. Expenditure during 1931, \$2,150.00.

Greenfield

Aug. 4, 1931, contract made with The John Turgeon Co., Inc., of Hartford, Conn., for moving building of Harry E. Ward on the southwesterly side of Cheap-side Bridge in Greenfield. The proposal amounted to \$2,050.00. Work completed Nov. 30, 1931. Expenditure during 1931, \$2,050.00.

Mendon

Aug. 4, 1931, contract made with William Melvin, of Milford, for moving school-house buildings on the State highway in the town of Mendon. The proposal amounted to \$1,600.00. Work completed Sept. 8, 1931. Expenditure during 1931, \$1,600.00.

Auburn-Worcester

Aug. 4, 1931, contract made with Carlo Bianchi and Company, Inc., of Framingham, for constructing a bridge and about 24,536 feet of State highway on South-bridge Street in Auburn, and about 1,000 feet of State highway on the same street in Worcester, the surface except over the bridge consisting of reinforced cement concrete, and the surface over the bridge consisting of bituminous concrete. The proposal amounted to \$368,251.35. Work about one-third completed. Expenditure during 1931, \$87,431.64.

Gill-Greenfield

Aug. 6, 1931, contract made with Kelleher Corporation, of Montague, for constructing a steel bridge at the Gill-Greenfield line, about 9,362 feet of State highway on the Gill road in Greenfield, and about 17,810 feet of State highway on the same road in Gill, the surface except over the bridge consisting of bituminous macadam, the surface over the bridge consisting of bituminous concrete. The proposal amounted to \$356,234.00. Work about one-third completed. Expenditure during 1931, \$118,439.81.

Rehoboth-Seekonk-Swansea

Aug. 6, 1931, contract made with the Sherry Construction Company, Inc., of Fall River, for constructing, reconstructing and widening about 16,291 feet of State highway on Fall River Avenue and new location in Seekonk, about 3,661 feet of State highway on Fall River Avenue in Rehoboth, and about 6,993 feet of State highway on the same road in Swansea, the surface, except on about 4,340 feet of State highway in Seekonk, consisting of reinforced cement concrete or bituminous macadam constructed on each side of the present concrete surface, the surface on about 4,340 feet of State highway in Seekonk consisting of reinforced cement concrete. The proposal amounted to \$183,930.20. Work completed Nov. 28, 1931. Expenditure during 1931, \$178,336.00.

Northborough

Aug. 11, 1931, contract made with P. Fahey & Sons, of Marlborough, for moving building of Edward B., Herbert W., and Chester J. Smith on the State highway in Northborough, known as the Boston Post Road. The proposal amounted to \$838.00. Work completed Nov. 19, 1931. Expenditure during 1931, \$641.07.

Egremont

Aug. 18, 1931, contract made with Bertolini Brothers, of Chester, for reconstructing about 16,968 feet of State highway on Molasses Hill Road, the surface consisting of bituminous macadam. The proposal amounted to \$132,316.70. Work about one-sixth completed. Expenditure during 1931, \$27,071.10.

Brockton

Sept. 1, 1931, contract made with Powers Brothers, of Brockton, for constructing about 4,763 feet of State highway on Centre Street, the surface consisting of bituminous macadam. The proposal amounted to \$36,041.80. Work completed Nov. 30, 1931. Expenditure during 1931, \$36,088.77.

Gill-Erving

Sept. 1, 1931, contract made with Simpson Bros. Corporation, of Boston, for constructing a bridge sub-structure over the Connecticut River. The proposal amounted to \$102,262.00. Work about four-fifths completed. Expenditure during 1931, \$80,581.87.

Uxbridge

Sept. 15, 1931, contract made with The Lane Construction Corporation, of Meriden, Conn., for constructing about 22,151 feet of State highway on Ironstone Street, the surface consisting of reinforced cement concrete. The proposal amounted to \$266,548.15. Work about one-sixth completed. Expenditure during 1931, \$43,252.46.

Hingham

Sept. 15, 1931, contract made with Thomas Whalen & Sons, Inc., of Whitman, for widening about 4,808 feet of State highway on Summer and Rockland Streets in Hingham, the surface consisting of a section of reinforced cement concrete constructed on each side of the present concrete surface. The proposal amounted to \$21,732.80. Work completed Nov. 13, 1931. Expenditure during 1931, \$20,222.39.

Millbury-Worcester

Sept. 22, 1931, contract made with A. I. Savin Company, of Hartford, Conn., for constructing about 6,158 feet of State highway in Worcester, and about 5,065 feet of State highway in Millbury, including the construction of three bridges in Millbury, the surface except over the bridges in Millbury consisting of reinforced cement concrete, and the surface over the bridges consisting of bituminous concrete. The proposal amounted to \$412,145.35. Work about one-sixth completed. Expenditure during 1931, \$75,398.02.

Townsend

Sept. 22, 1931, contract made with P. J. Keating Company, of Fitchburg, for constructing extensions to three bridges over Willard Brook and the approaches to

said bridges on the State highway in Townsend known as the Ashby Road, the surface consisting of gravel. The proposal amounted to \$34,667.60. Work about one-third completed. Expenditure during 1931, \$14,746.13.

Salisbury

September 29, 1931, contract made with James E. Watkins Company, Inc., of Amesbury, for reconstructing about 11,582 feet of State highway on the Beach Road, the surface consisting of bituminous macadam. The proposal amounted to \$68,344.10. Work about one-third completed. Expenditure during 1931, \$24,596.15.

Huntington

Sept. 29, 1931, contract made with Tarbell & Leete, Inc., of Springfield, for moving building of Fred and Josephine Frazier on the State highway in Huntington known as the Chester Road. The proposal amounted to \$2,185.00. Work about one-half completed. Expenditure during 1931, \$1,785.00.

Townsend

Oct. 6, 1931, contract made with P. J. Keating Company, of Fitchburg, for widening a bridge and approaches on the State highway known as the Ashby Road, the surface consisting of gravel. The proposal amounted to \$4,485.00. Work about one-half completed. Expenditure during 1931, \$2,009.67.

Randolph

Oct. 13, 1931, contract made with Powers Brothers, of Brockton, for constructing about 4,967 feet of State highway on North Main Street, the surface consisting of concrete. The proposal amounted to \$53,816.20. Work just commenced. Expenditure during 1931, \$2,321.18.

Barnstable

Oct. 13, 1931, contract made with The Lane Construction Corporation, of Meriden, Conn., for reconstructing about 5,116 feet of State highway on the Hyannis-Centerville Road, and about 8,900 feet of State highway on the Falmouth Road, the surface consisting of bituminous concrete. The proposal amounted to \$58,494.00. Expenditure during 1931, \$20,637.91. Work about two-fifths completed.

Ashby

Oct. 20, 1931, contract made with Antonio Pallotto, of Dracut, for widening a bridge and approaches on the State highway in Ashby, known as the Fitchburg Road, the surface consisting of bituminous macadam. The proposal amounted to \$27,325.50. Work about one-fourth completed. Expenditure during 1931, \$7,198.70.

Framingham-Natick

Oct. 20, 1931, contract made with B. Perini & Sons, of Ashland, for constructing a steel stringer bridge at Concord Street in Framingham, a steel stringer bridge at North Main Street in Natick, about 11,264 feet of State highway on Worcester Street in Framingham, and about 18,331 feet of State highway on the same road in Natick, the surface, except over the bridges, consisting of cement concrete, the surface over the bridges consisting of bituminous concrete. The proposal amounted to \$646,045.14. Work just commenced. Expenditure during 1931, \$18,761.51.

Sharon-Walpole-Norwood

Nov. 3, 1931, contract made with Carlo Bianchi and Company, Inc., of Framingham, for constructing about 6,177 feet of State highway on the Old Post Road in Sharon, 9,321 feet of State highway on the same road in Walpole, and about 13,325 feet of State highway on the same road in Norwood, the surface consisting of reinforced cement concrete. The proposal amounted to \$359,550.45. Work just commenced. Expenditure during 1931, \$2,847.50.

Shrewsbury-Worcester

Nov. 3, 1931, contract made with E. D. Ward Company, of Worcester, for constructing a steel stringer bridge at Grafton Street in Worcester, about 8,371 feet

of State highway on Massasoit Street in Worcester, and about 7,550 feet of State highway on the same road in Shrewsbury, the surface, except over the bridge in Worcester and about 2,500 feet of State highway in Shrewsbury, consisting of reinforced cement concrete, the surface over the bridge consisting of bituminous concrete, and the surface on about 2,500 feet of State highway in Shrewsbury consisting of bituminous macadam. The proposal amounted to \$380,999.10. Work just commenced. Expenditure during 1931, \$4,962.30.

Gill-Erving

Nov. 10, 1931, contract made with McClintic-Marshall Corporation, of Bethlehem, Pennsylvania, for constructing a steel bridge superstructure over the Connecticut River at the dividing line between the towns of Gill and Erving, the surface over the bridge consisting of bituminous concrete. The proposal amounted to \$256,910.30. Work not yet commenced.

Ipswich

Nov. 10, 1931, contract made with R. G. Watkins & Son, Inc., of Amesbury, for reconstructing bridge approaches on about 977 feet of State highway, known as High Street, in Ipswich, the surface except over the railroad bridge consisting of bituminous macadam, and the surface over the railroad bridge consisting of bituminous concrete. The proposal amounted to \$10,394.15. Work not yet commenced.

Williamstown

Nov. 10, 1931, contract made with Ralph E. Bull, of Fitchburg, for constructing about 9,446 feet of State highway on the Petersburg Mountain Road, the surface consisting of bituminous macadam. The proposal amounted to \$72,682.98. Work just commenced. Expenditure during 1931, \$2,891.27.

Uxbridge

Nov. 24, 1931, contract made with the Waterbury Road Construction Company, Inc., of Hartford, Conn., for constructing a bridge and approaches on about 1,510 feet of State highway on the Millville Road, the surface consisting of bituminous macadam. The proposal amounted to \$41,811.50. Work not yet commenced.

Lakeville-Middleborough

Nov. 24, 1931, contract made with Arute Bros., Incorporated, of New Britain, Conn., for constructing about 3,602 feet of State highway on Bedford Street in Middleborough, and 17,800 feet of State highway on the same road in Lakeville, the surface consisting of sections of bituminous macadam between two sections of reinforced cement concrete, bituminous macadam, and bituminous concrete. The proposal amounted to \$243,468.10. Work not yet commenced.

Swampscott-Salem

Nov. 24, 1931, contract made with M. McDonough Co., of Saugus, for reconstructing about 7,383 feet of State highway on Loring Avenue in Salem, and about 5,612 feet of State highway on Paradise Road in Swampscott, the surface consisting of bituminous macadam. The proposal amounted to \$108,411.90. Work not yet commenced.

EXPENDITURES FOR THE CONSTRUCTION OF STATE HIGHWAYS

The expenditures for the construction of State highways in various counties during the year were: —

Barnstable, \$307,500.95
 Berkshire, \$79,180.43
 Bristol, \$409,625.29
 Essex, \$207,139.92
 Franklin, \$619,725.49
 Hampden, \$261,276.52

Hampshire, \$125,856.05
 Middlesex, \$736,924.24
 Norfolk, \$505,233.95
 Plymouth, \$418,226.19
 Worcester, \$2,337,268.70
 Total, \$6,007,957.73

Details of the foregoing expenditures follow: —

Barnstable County. — Barnstable, \$246,088.86; Bourne, \$35,063.02; Sandwich, \$26,349.07.

Berkshire County. — Dalton, \$15,536.81; Lee, \$2,365.26; Sandisfield, \$7,950.98; Williamstown, \$140.74; Windsor, \$53,186.64.

Bristol County. — Attleboro, \$182,748.38; North Attleborough, \$170,723.13; Seekonk, \$56,153.78.

Essex County. — Amesbury, \$12,648.86; Merrimac, \$8,499.50; Newbury, \$49,541.88; North Andover, \$113,274.42; Rowley, \$23,175.26.

Franklin County. — Ashfield, \$171,582.85; Bernardston, \$32,231.93; Buckland, \$3,235.92; Charlemont, \$25,333.12; Conway, \$134,815.06; Deerfield, \$103,817.31; Greenfield, \$108,054.74; Orange, \$40,654.56.

Hampden County. — Chester, \$143,478.52; Monson, \$1,881.50; Palmer, \$115,916.50.

Hampshire County. — Cummington, \$2,239.11; Huntington, \$123,616.94.

Middlesex County. — North Reading, \$7,240.33; Reading, \$4,234.81; Tyngsborough, \$444,436.77; Waltham, \$24,863.43; Weston, \$256,148.90.

Norfolk County. — Avon, \$40,661.07; Foxborough, \$12,427.76; Milton, \$10,740.04; Plainville, \$248,554.36; Randolph, \$2,809.05; Wrentham, \$190,041.67.

Plymouth County. — Abington, \$7,555.85; Bridgewater, \$30,694.56; Brockton, \$81,108.11; Duxbury, \$122,315.24; Kingston, \$31,145.05; Mattapoisett, \$16,070.66; Middleborough, \$37,059.19; Pembroke, \$92,277.53.

Worcester County. — Athol, \$33,101.23; Dudley, \$91,206.03; Hopedale, \$56,444.76; Mendon, \$38,945.22; Milford, \$88,267.29; Northborough, \$170,788.81; Shrewsbury, \$588,420.72; Southborough, \$371,021.58; Southbridge, \$39,666.31; Westborough, \$859,406.75.

Expenditures under the provisions of Chapter 119, Acts of 1931:

Hingham, \$129,419.96

Hull, \$199,748.09

EXPENDITURES UNDER THE PROVISIONS OF CHAPTER 122, ACTS OF 1931 For State Highway Construction

Framingham-Southborough	\$853,922.31	Framingham-Natick	\$36,143.19
Northborough-Shrewsbury	442,256.08	Millbury-Worcester	86,824.74
Foxborough-Sharon-Walpole-Wrentham	217,932.56	Sharon-Walpole-Norwood	3,053.23
Auburn-Worcester	94,856.20	Worcester-Shrewsbury	5,885.18
Gill-Greenfield	125,532.97	Williamstown	2,938.62
Erving-	144,021.08	Lakeville-Middleborough	35 10
Gill-Erving	81,686.12	Uxbridge	45,355.02
Erving-Gill	2,458.51		
			<hr/>
			\$2,142,900.91

MAINTENANCE AND REPAIR OF STATE HIGHWAYS

(Section 13, Chapter 81, General Laws). The expenditures during the year in various counties were: —

Barnstable, \$256,426.24
Berkshire, \$1,090,395.49
Bristol, \$763,297.21
Dukes, \$65,844.73
Essex, \$910,801.15
Franklin, \$103,569.18
Hampden, \$521,413.68
Hampshire, \$117,416.78

Middlesex, \$1,085,571.74
Nantucket, \$509.87
Norfolk, \$304,926.09
Plymouth, \$672,332.96
Suffolk, \$20,804.94
Worcester, \$986,660.68
Total, \$6,899,970.74

Details of the foregoing expenditures follow: —

Barnstable County. — Barnstable, \$35,444.94; Bourne, \$112,773.96; Brewster, \$43,003.47; Chatham, \$3,038.73; Dennis, \$2,421.62; Eastham, \$3,668.23; Falmouth, \$18,271.81; Harwich, \$2,429.40; Mashpee, \$3,808.14; Orleans, \$4,030.56; Provincetown, \$2,705.29; Sandwich, \$12,181.11; Truro, \$3,994.34; Wellfleet, \$3,903.10; Yarmouth, \$4,751.54.

Berkshire County. — Adams, \$1,795.45; Becket, \$505,783.59; Cheshire, \$12,206.85; Clarksburg, \$4,710.09; Dalton, \$7,164.15; Egremont, \$37,959.43; Florida, \$7,829.32; Great Barrington, \$13,543.95; Hancock, \$6,405.45; Hinsdale, \$6,261.52; Lanesborough, \$6,218.03; Lee, \$97,883.35; Lenox, \$13,337.53; New Ashford, \$3,619.09; New Marlborough, \$321.38; North Adams, \$9,385.24; Otis, \$2,585.32; Pittsfield, \$17,937.60; Richmond, \$2,637.87; Sandisfield, \$5,134.80; Savoy, \$1,320.09; Sheffield, \$123,948.17; Stockbridge, \$9,847.65; Washington, \$4,641.43; West Stockbridge, \$277.85; Williamstown, \$15,593.78; Windsor, \$172,046.51.

Bristol County. — Acushnet, \$2,622.02; Attleborough, \$4,066.98; Berkley, \$1,213.26; Dartmouth, \$10,499.25; Dighton, \$19,806.37; Easton, \$14,701.00; Fairhaven, \$15,595.35; Fall River, \$71.64; Freetown, \$12,259.63; Mansfield, \$5,927.68; New Bedford, \$120,462.95; Norton, \$10,565.94; North Attleborough, \$44,876.07; Raynham, \$3,885.85; Rehoboth, \$53,394.29; Seekonk, \$88,239.03; Somerset, \$80,450.16; Swansea, \$239,069.70; Taunton, \$31,642.37; Westport, \$3,947.67.

Dukes County. — Chilmark, \$19,579.16; Edgartown, \$1,949.38; Gay Head, \$711.43; Oak Bluffs, \$455.12; Tisbury, \$1,080.72; West Tisbury, \$42,068.92.

Essex County. — Amesbury, \$58,346.28; Andover, \$139,285.79; Beverly, \$11,317.09; Danvers, \$20,102.18; Essex, \$5,162.09; Gloucester, \$10,211.64; Groveland, \$2,860.28; Hamilton, \$10,366.74; Haverhill, \$72,840.68; Ipswich, \$11,462.31; Lawrence, \$1,492.96; Lynn, \$12,204.46; Lynnfield, \$3,311.16; Merrimac, \$41,877.54; Methuen, \$7,876.38; Middleton, \$5,498.71; Newbury, \$95,879.95; Newburyport, \$2,805.63; North Andover, \$45,487.51; Peabody, \$7,950.37; Rockport, \$956.28; Rowley, \$202,883.55; Salem, \$10,221.22; Salisbury, \$72,439.47; Saugus, \$11,627.79; Swampscott, \$2,410.89; Topsfield, \$10,337.64; Wenham, \$26,927.68; West Newbury, \$6,656.88.

Franklin County. — Ashfield, \$1,816.84; Bernardston, \$4,813.26; Buckland, \$15,778.20; Charlemont, \$17,599.15; Colrain, \$987.80; Conway, \$1,483.71; Deerfield, \$9,801.25; Erving, \$8,530.63; Gill, \$913.66; Greenfield, \$9,456.63; Montague, \$4,642.33; Northfield, \$5,574.56; Orange, \$3,597.53; Shelburne, \$10,430.19; Sunderland, \$6,129.35; Whately, \$2,014.09.

Hampden County. — Agawam, \$16,212.22; Blandford, \$6,014.87; Brimfield, \$7,607.19; Chester, \$87,403.09; Chicopee, \$7,258.50; East Longmeadow, \$1,476.66; Holyoke, \$4,524.82; Monson, \$50,104.99; Palmer, \$166,654.50; Russell, \$9,260.37; Southwick, \$3,942.18; Tolland, \$343.49; Wales, \$2,428.08; Westfield, \$7,494.31; West Springfield, \$6,943.15; Wilbraham, \$143,745.26.

Hampshire County. — Amherst, \$7,005.64; Belchertown, \$3,262.61; Cummington, \$10,447.85; Easthampton, \$11,097.91; Goshen, \$4,259.35; Granby, \$5,015.55; Hadley, \$2,117.72; Hatfield, \$4,910.03; Huntington, \$25,348.96; Northampton, \$12,809.68; Southampton, \$2,770.12; South Hadley, \$13,560.48; Ware, \$8,770.49; Williamsburg, \$6,040.39.

Middlesex County. — Acton, \$11,356.10; Arlington, \$14,580.13; Ashby, \$14,231.76; Ashland, \$4,070.38; Ayer, \$3,462.56; Bedford, \$6,851.11; Billerica, \$50,146.74; Boxborough, \$5,891.17; Burlington, \$3,365.26; Chelmsford, \$3,305.71; Concord, \$9,003.11; Dracut, \$8,898.41; Framingham, \$9,789.43; Groton, \$55,039.91; Holliston, \$6,959.51; Hudson, \$1,313.30; Lexington, \$4,173.98; Lincoln, \$1,794.16; Littleton, \$10,765.10; Lowell, \$3,308.35; Malden, \$24.59; Marlborough, \$237,472.78; Medford, \$1,494.95; Melrose, \$10,293.33; Natick, \$2,240.35; Newton, \$480.39; North Reading, \$207,794.83; Pepperell, \$18,069.67; Reading, \$191,089.00; Shirley, \$3,651.28; Somerville, \$713.78; Stoneham, \$1,946.28; Sudbury, \$3,892.91; Tewksbury, \$3,026.60; Townsend, \$24,023.89; Tyngsborough, \$3,778.58; Waltham, \$735.80; Watertown, \$1,701.58; Wayland, \$2,744.65; Westford, \$7,104.37; Weston, \$121,268.91; Wilmington, \$2,020.93; Winchester, \$6,089.19; Woburn, \$5,606.92.

Nantucket County. — Nantucket, \$509.87.

Norfolk County. — Avon, \$79,680.95; Bellingham, \$9,187.80; Braintree, \$7,763.61; Canton, \$12,520.10; Cohasset, \$2,841.55; Dedham, \$32,501.13; Dover, \$3,534.41; Foxboro, \$12,009.48; Franklin, \$997.18; Holbrook, \$3,668.17; Milton, \$8,966.04; Needham, \$364.35; Norwood, \$4,231.91; Plainville, \$2,151.85; Quincy, \$13,022.43; Randolph, \$44,621.59; Sharon, \$345.89; Stoughton, \$8,239.79

Walpole, \$2,194.86; Wellesley, \$2,783.33; Westwood, \$1,224.96; Weymouth, \$38,981.83; Wrentham, \$12,275.05; Norfolk, \$817.83.

Plymouth County. — Abington, \$70,520.21; Bridgewater, \$55,523.24; Brockton, \$32,354.50; Duxbury, \$39,480.48; East Bridgewater, \$103,794.42; Hanover, \$12,213.17; Hingham, \$38,301.13; Kingston, \$1,172.08; Lakeville, \$8,018.66; Marion, \$5,791.13; Marshfield, \$7,022.22; Mattapoisett, \$4,078.47; Middleborough, \$16,113.51; Norwell, \$2,019.34; Pembroke, \$71,162.85; Plymouth, \$38,314.17; Rochester, \$1,580.86; Rockland, \$858.92; Scituate, \$5,700.34; Wareham, \$155,191.49; West Bridgewater, \$1,472.42; Whitman, \$1,649.35.

Suffolk County. — Boston, \$4,159.74; Chelsea, \$832.00; Revere, \$15,813.20.

Worcester County. — Ashburnham, \$7,563.88; Athol, \$2,459.77; Auburn, \$4,633.77; Barre, \$19,609.20; Blackstone, \$1,317.54; Brookfield, \$1,582.40; Charlton, \$8,256.57; Douglas, \$382.41; Dudley, \$1,582.33; East Brookfield, \$9,231.43; Fitchburg, \$4,086.70; Gardner, \$23,695.42; Grafton, \$7,818.34; Hardwick, \$597.58; Harvard, \$4,983.17; Holden, \$6,276.86; Hopedale, \$1,724.28; Lancaster, \$1,304.65; Leicester, \$13,671.65; Leominster, \$1,294.65; Lunenburg, \$13,488.64; Mendon, \$3,091.44; Milford, \$1,387.71; Millbury, \$1,639.98; Millville, \$2,165.76; New Braintree, \$369.98; North Brookfield, \$22,422.82; Northborough, \$343,972.33; Northbridge, \$11,309.68; Oakham, \$1,478.26; Oxford, \$5,056.33; Paxton, \$4,562.85; Petersham, \$4,997.40; Phillipston, \$1,529.88; Princeton, \$576.06; Rutland, \$11,170.54; Shrewsbury, \$217,491.99; Southborough, \$3,235.15; Southbridge, \$21,009.15; Spencer, \$1,560.57; Sterling, \$12,032.07; Sturbridge, \$113,323.44; Sutton, \$6,255.11; Templeton, \$22,016.28; Upton, \$3,768.11; Uxbridge, \$6,621.29; Warren, \$5,919.23; Webster, \$843.70; West Boylston, \$5,199.39; West Brookfield, \$2,149.62; Westminster, \$4,243.56; Westborough, \$3,115.14; Winchendon, \$2,993.80; Worcester, \$3,590.82.

Miscellaneous expenditures are as follows: —

9 snow plows	\$12,396 02	
7 spreaders	5,070 94	
Truck repairs	17,137 29	
Truck operation	5,534 33	
Truck plow repairs	29,999 78	
Tractor repairs	14,534 89	
Tractor operation	6,759 14	
Tractor plow repairs	17,206 95	
Snow fence	1,727 24	
Expenditures under towns	399,383 64	
		\$509,750 22
Warning signs	\$40,775 19	
Direction signs	76,644 34	
Control signals	22,275 15	
Traffic survey	23,343 22	
Traffic accidents	649 95	
Traffic permits	1,926 57	
		165,614 34
Somerset Bridge	\$13,444 24	
Newburyport Bridge	7,773 97	
Fairhaven-New Bedford Bridge	22,762 93	
		43,981 14
Detour bulletins		5,715 93
Tercentenary signs		635 96
Total of miscellaneous expenditures		\$725,697 59

REMOVAL OF SNOW AND ICE FROM STATE HIGHWAYS

The authority of the Department relative to the removal of snow and ice from State highways has been provided by section 19, chapter 81, General Laws, as amended.

The cooperation of the Department with officers of cities, towns and counties in keeping open and reasonably passable for vehicles during the winter months

such highways as may be selected by the Department is provided for in section 11, chapter 84, General Laws, as amended.

In accordance with the provisions of these laws, the Department selected 1,564 miles of highways on the principal routes of travel, 1,468 miles of which are State highways and 96 miles town highways.

The work of snow removal on these routes is performed in a large part by the trucks and tractors owned and operated by the Department, but certain towns and cities, by agreement with the Department, perform part of the work of snow removal on the portions of the routes within their limits. All of this work is done under the direction and supervision of the Department.

The expenditures by the Department for snow removal during the year under the provisions of both the above-mentioned laws amounted to a total of \$509,750.22, which includes the cost of the maintenance and repair of the equipment, actual cost of plowing and purchase of materials, such as calcium chloride and sand or use on icy conditions of the road surfaces.

UNIFORM TRAFFIC SIGNS, LIGHTS, MARKINGS, SIGNAL SYSTEMS AND REGULATIONS

Authority and jurisdiction relating to the erection of traffic signs, lights, markings, signal systems and regulations on highways within the Commonwealth was placed in the Department of Public Works by chapter 357 of the Acts of 1928. The Department is thereby enabled to insure that all traffic control signals to be erected by the municipalities shall conform to standards adopted by the Department and cooperates with the cities and towns for the purpose of properly locating and operating such signals. All through ways desired by the municipalities must first be approved by the Department before such may become effective.

In order to secure uniformity in the matter of traffic control, the Department has issued three bulletins, two in previous years and the third bulletin during the current year. These bulletins are as follows: Bulletin No. 1, "Recommendations and Requirements relating to Through Ways"; Bulletin No. 2, "A Standard Code for Traffic Signal Installation and Operation"; Bulletin No. 3, "A Standard Code for Traffic Signs, Warning Beacons and Islands." These present the standards which are required to be met by the cities and towns of the State for the installation and maintenance of traffic signs, signals and devices for the control of traffic.

TRAFFIC CONTROL SIGNALS AND REGULATIONS APPROVED

During the year the Department has issued permits to cities and towns for the following traffic control features:

	In 1931	Previously	Total to Date
Traffic Signals, at intersections	66	551	617
Traffic Beacons	55	125	180
"Through Ways"	14	87	101
Traffic Signs and Markings	56	85	141
Traffic Rules and Regulations.	70	118	188

DIRECTION SIGNS, ROUTE MARKERS, WARNING SIGNS AND TRAFFIC CONTROL SIGNALS ERECTED BY DEPARTMENT

The Department has given a great deal of study to the determination of the important routes of travel for the purpose of marking and furnishing direction signs as aids for traveling. Ninety-five automobile routes have been selected, including practically every city, town and village in the Commonwealth, having a total mileage of 3,200 miles. Included in this designation are the so-called United States routes, the numbering of which conforms to the numbers approved by the United States Bureau of Public Roads. The other routes selected are numbered according to the State's designation.

The placing of route numbers and direction signs at points of advantage on these designated highways is done by the Department both on State highways and on city and town ways, permission for the latter being obtained from the local authorities. Warning signs and traffic control signals which are erected and maintained by the Department are placed only on State highways.

Many new warning signs, including plain signs, reflecting button signs, as well as electric flashing beacons and neon signs, have been erected and a new type of sign intended to direct traffic movement at the new grade separations along some of the recently constructed highways has been installed. This type of intersection is new to the travelling public so that many more signs were required to direct traffic at such locations as the Tyngsborough bridge and grade separations on the new Boston-Worcester Turnpike. There have also been designed and erected signs for designating important rivers and bodies of water on the main routes through the State. Flood lighting has been provided at several intersections to illuminate islands and planted areas.

The adoption of the route markers equipped with reflecting buttons has proven the greatest aid for night driving. A total of 14,433 such markers have been made to date for use on the highways.

The Department installed traffic control signals at twenty-two intersections during the year; eleven were installed in 1930 and one in 1929; making a total to date of thirty-four signals.

The Department has designated portions of two highways as "through ways," aggregating 26 miles, and also thirteen other stretches of highways aggregating 51.3 miles, at the request of cities and towns in which these ways are located.

The manufacture of many of these signs and the erection and maintenance of all of these signs and signals are part of the highway maintenance activities.

TRAFFIC ACCIDENT STUDIES

Studies have been continued to ascertain the attendant circumstances and physical characteristics at points on the highways where accidents have occurred, in order to measure the effectiveness of control or lack of control of traffic movements at such points. Such information included the type of district, layout of the roadway, means of traffic control, atmospheric conditions, light conditions, condition of roadway, physical obstructions in the roadway and obstructions to view. This information is required in reports submitted to the Registry of Motor Vehicles and is supplied to the traffic engineering section for study.

In connection with the study of such data a large wall map is used to locate by pins the points where accidents occur. The data obtained by the traffic count are also used in connection with the records of accidents on numbered automobile routes. It is believed that these studies will assist in determination of hazardous conditions so that the physical characteristics or traffic control measures, or both, will be altered to produce greater factors of safety at such points on the highways.

ROADSIDE MAINTENANCE AND DEVELOPMENT

Roadside maintenance as related to the care and planting of trees and other growth on the areas within the highway layouts and adjacent to the traveled surface of State highways has been one of the activities of this Department for over thirty-six years. This work has been developed more rapidly during recent years because it has become recognized that systematic and intelligent control and development of all features of the roadside conditions are of value not only from the point of view of attractiveness in appearance but as a safety factor as well.

The Department has organized and trained a group of men under competent supervision to have charge of this work, not only for the removal and trimming of trees, brush and undesirable growth, but also for the selection and planting of new growth suitable for the locations. The removal of trees and brush that may obstruct vision at curves, intersections or other points on the highways is done to insure that operating conditions shall be as safe as possible and unnecessary growth is cleared out in order to afford attractive vistas at many scenic locations. For the protection of the roadside trees the Department has maintained a corps of inspectors to supervise trimming that may be necessary for the construction of light and power transmission lines. In connection with this work there are three nurseries maintained in which the types of trees and shrubs suitable for use on the highways of Massachusetts are grown and made available for use by the Department.

During the year 2,547 trees were planted, making a total for the past twenty-seven years of 62,224 trees planted; and in this year 7,273 shrubs have been

planted throughout the State; in addition, 14,285 small pines have been planted on bare slopes and ragged cuts.

The Department made provisions in November for the employment during the coming winter of a large number of men in an endeavor to alleviate the unemployment situation. It is expected that 1,000 to 1,800 men will thus be given at least part time employment. These men are to be employed on maintenance activities of the Department as they relate to the roadside care and improvement, such as trimming out undesirable growth and removing trees of little value, with the aim of improving visibility at hazardous locations, opening up vistas for the greater enjoyment of the scenic features of the highways, and of advancing greatly the usual activities of the Department in this kind of work.

During the past year the Department has acquired a farm of approximately 90 acres in the town of Sudbury where it is proposed to establish an up-to-date nursery for the growing of trees and shrubs for highway beautification purposes.

Many of the trees used at present have been grown in the nursery conducted on land at Palmer owned by the Department of Conservation.

The buildings on the new property are being remodeled to fit the needs of the nursery and all trees and shrubs now located in Palmer will be transplanted during the coming year.

STATE HIGHWAY LIGHTING

The Department was authorized and directed to provide lighting of a section of the Boston-Salem Turnpike in the cities of Lynn and Revere and the town of Saugus, by Chapter 447, Acts of 1931, which is as follows:

"The department of public works is hereby authorized and directed to install and maintain a system of street lighting on that section of the state highway known as the Boston-Salem turnpike lying between Ward street in the city of Revere and the northerly terminus of Fox Hill bridge in the city of Lynn, and may make such contracts therefor as may be necessary. The installation and maintenance of such lighting system shall serve as a demonstration in respect to the expediency of installing and maintaining similar systems on other state highways. All expense incurred hereunder in the current fiscal year shall be paid by the commonwealth from item number six hundred and twelve of chapter two hundred and forty-five of the acts of the current year, and in subsequent years one half shall be paid by the commonwealth from the annual appropriation for the maintenance and repair of state highways, and one half shall be paid by the cities of Revere and Lynn and the town of Saugus in equal amounts."

In accordance therewith a contract was awarded for the installation of lighting fixtures along the Boston and Salem Turnpike in the cities and town mentioned above. This provided for 400-watt lighting units to be erected 250 feet apart on alternate sides of the highway.

SIDEWALK CONSTRUCTION ON STATE HIGHWAYS

Authority for the construction of sidewalks along State highways was granted by Chapter 439, Acts of 1931, which amended section 20, Chapter 81, General Laws, as follows:

"Chapter eighty-one of the General Laws, as amended in section twenty by section twenty-nine of chapter three hundred and ninety-four of the acts of the current year, is hereby further amended by striking out said section twenty and inserting in place thereof the following: Section 20. The department shall from time to time construct sidewalks along such parts of the state highways as it determines public convenience and necessity require. Sidewalks may also be constructed along state highways and maintained in accordance with sections twenty-five and twenty-six of chapter eighty-three."

In accordance therewith the construction was started on sidewalks on the State highway in the towns of Somerset and Swansea.

TERCENTENARY SIGNS

Under the provisions of Chapter 10 of the Resolves of 1930, the Department was authorized to prepare and erect signs and suitable markers, including such as may be selected by the Massachusetts Bay Colony Tercentenary Commission,

with suitable inscriptions, indicating the ancient ways of the Puritan times and the structures or places relating to or associated with the early settlements within the Commonwealth. These signs and markers, after being erected, are required to be maintained by the Department from appropriations made for the maintenance of highways.

The locations of these signs and markers were selected jointly by the local authorities of the cities and towns and the Tercentenary Commission with due consideration as to visibility, proper height and position. A total of 273 tercentenary signs were erected. During the year 200 of these signs were refinished and replaced.

REGULATION OF TRAFFIC ON HIGHWAYS DURING THE WINTER 1930-31

As provided in section 30, chapter 85, General Laws, as amended, the Department on Jan. 27, 1931, adopted regulations, and gave public notice thereof, providing that no person shall drive, operate or move any vehicle or object which with its load weighs more than ten thousand pounds over certain State highways without a permit therefor during the season. These regulations were in effect in the following counties during the periods stated:—

Barnstable County,	Feb. 16 to Apr. 1, 1931.
Berkshire County,	Feb. 16 to Apr. 18, 1931.
Bristol County,	Feb. 16 to Apr. 18, 1931.
Franklin County,	Feb. 16 to Apr. 18, 1931.
Hampden County,	Feb. 16 to Apr. 18, 1931.
Hampshire County,	Feb. 16 to Apr. 18, 1931.
Norfolk County,	Feb. 16 to Apr. 18, 1931.
Plymouth County,	Feb. 23 to Apr. 11, 1931.
Essex County,	Mar. 2 to Apr. 18, 1931.
Middlesex County,	Mar. 2 to Apr. 18, 1931.
Worcester County,	Mar. 2 to Apr. 18, 1931.

FEDERAL AID IN CONSTRUCTING HIGHWAYS

Statements as to the acts of Congress and of the Massachusetts Legislature with respect to co-operation between the United States and the states in the construction and maintenance of highways, including the Federal Highway Act approved Nov. 9, 1921, may be found in the annual reports of this Department for the years 1920-1930, inclusive.

The following Federal aid allotments have thus far been made to Massachusetts:

For fiscal year ending June 30, 1917	\$73,850 94
For fiscal year ending June 30, 1918	147,701 90
For fiscal year ending June 30, 1919	958,145 15
For fiscal year ending June 30, 1920	1,400,078 27
For fiscal year ending June 30, 1921	1,472,788 83
For fiscal year ending June 30, 1922	1,096,176 04
For fiscal year ending June 30, 1923	730,784 03
For fiscal year ending June 30, 1924	950,448 62
For fiscal year ending June 30, 1925	1,089,806 22
For fiscal year ending June 30, 1926	1,099,891 00
For fiscal year ending June 30, 1927	1,089,055 00
For fiscal year ending June 30, 1928	1,089,100 00
For fiscal year ending June 30, 1929	1,088,808 00
For fiscal year ending June 30, 1930	1,090,077 00
For fiscal year ending June 30, 1931	1,821,569 00
For fiscal year ending June 30, 1932	1,813,916 00
For fiscal year ending June 30, 1933	1,511,244 00
Total	\$18,523,440 00

Federal "Emergency Advance Funds" allotment was made to Massachusetts in addition to the above amounting to \$1,141,460.00.

The total amount received by Massachusetts from 1916 to Nov. 30, 1931, is \$14,847,422.72.*

* Includes \$1,141,460.00 Federal Emergency Advance Funds.

Projects to the number of 36 have been prepared in addition to those shown in the report of the Department of Public Works for 1929. The total mileage included in the various Federal aid road projects in this state, from the commencement of work of this character to November 30, 1931, inclusive, is 887,275. The mileage in various counties is:—

Barnstable, 84.318 miles

Berkshire, 115.342 miles

Bristol, 78.560 miles

Dukes, 3.117 miles

Essex, 71.782 miles

Franklin, 42.498 miles

Hampden, 50.502 miles

Hampshire, 43.021 miles

Middlesex, 79.401 miles

Norfolk, 71.937 miles

Plymouth, 96.579 miles

Worcester, 150.218 miles

STATEMENT OF FEDERAL AID ROAD PROJECTS* TO NOV. 30, 1930

No.	TOWN OR CITY	Miles	Amount of Federal Aid involved	Amount received	Remarks
1	Acushnet-Fairhaven	2.182	\$21,820 00	\$21,820 00	Work completed.
2	Hanover	2.708	19,480 36	19,480 36	Work completed.
R2	Hanover	2.615	39,225 00	39,225 00	Work completed.
3	Malden-Melrose-Saugus	1.162	11,620 00	11,620 00	Work completed.
4	Danvers	1.325	15,460 22	15,460 22	Work completed.
5	Windsor-Dalton	3.240	64,800 00	64,800 00	Work completed.
6	Sandwich	1.818	10,678 02	10,678 02	Work completed.
7	Cummington	4.659	86,816 53	86,816 53	Work completed.
8	Athol-Petersham	7.016	90,074 51	90,074 51	Work completed.
9	Saugus	3.122	65,472 27	65,472 27	Work completed.
10	Braintree	2.420	40,554 80	40,554 80	Work completed.
11	Concord-Acton-Littleton	4.849	77,600 87	77,600 87	Work completed.
12	Ipswich	2.173	21,851 50	21,851 50	Work completed.
13	Littleton-Groton	6.450	130,504 25	130,504 25	Work completed.
14	Barnstable	3.331	22,687 65	22,687 65	Work completed.
15	Norwell-Hingham	4.380	59,501 75	59,501 75	Work completed.
17	Lynnfield-Peabody	1.794	35,880 00	35,880 00	Work completed.
18	Lunenburg	2.797	55,940 00	55,940 00	Work completed.
19	Taunton	2.116	42,320 00	42,320 00	Work completed.
20	Tewksbury	2.909	35,211 82	35,211 82	Work completed.
21	Pittsfield-Hancock	3.637	72,483 32	72,483 32	Work completed.
22	Greenfield-Bernardston	6.426	88,270 71	88,270 71	Work completed.
23	Great Barrington	2.123	31,348 89	31,348 89	Work completed.
24	Seekonk	2.756	19,527 75	19,527 75	Work completed.
R24	Seekonk	2.756	41,340 00	41,340 00	Work completed.
25	Billerica	0.578	38,389 77	38,389 77	Work completed.
26	Greenfield-Shelburne:				
	Section 1	5.134	102,680 00	102,680 00	Work completed.
	Section 2	4.401	88,020 00	88,020 00	Work completed.
27	Hamilton-Wenham	1.766	20,207 27	20,207 27	Work completed.
28	Lanesborough:				
	Section A	0.990	19,780 00	19,780 00	Work completed.
	Section B	2.690	53,800 00	53,800 00	Work completed.
29	Ware	2.626	46,557 55	46,557 55	Work completed.
30	Brimfield	4.206	84,120 00	84,120 00	Work completed.
31	Danvers-Peabody	1.107	22,140 00	22,140 00	Work completed.
32	Huntington	3.078	97,163 48	97,163 48	Work completed.
33	Acton-Littleton:				
	Section A	2.182	43,640 00	43,640 00	Work completed.
	Section B	1.624	25,847 25	25,847 25	Work completed.
34	Dudley	1.359	27,180 00	27,180 00	Work completed.
35	Haverhill-Methuen	4.544	90,880 00	90,880 00	Work completed.
36	Eastham-Wellfleet-Provincetown:				
	Section A	10.690	91,347 85	91,347 85	Work completed.
	Section B	6.548	75,935 60	75,935 60	Work completed.
	Section C	8.043	86,130 51	86,130 51	Work completed.
37	Egremont	1.164	20,579 07	20,579 07	Work completed.
38	Peabody-Danvers	2.827	56,540 00	56,540 00	Work completed.
39	Williamstown-New Ashford-Lanes-				
	borough:				
	Section A	0.020	9,123 64	9,123 64	Work completed.
	Section B	3.323	65,980 00	65,980 00	Work completed.
	Section C	4.590	68,850 00	68,850 00	Work completed.
40	East Brookfield	1.011	20,220 00	20,220 00	Work completed.
41	Ashby	1.250	22,141 03	22,141 03	Work completed.
42	Washington	2.291	45,820 00	45,820 00	Work completed.
43	Leicester	0.638	12,760 00	12,760 00	Work completed.
44	Goshen-Cummington-Windsor:				
	Section A	1.494	29,880 00	29,880 00	Work completed.
	Section B	1.479	50,183 37	50,183 37	Work completed.
	Section C	3.780	82,915 42	82,915 42	Work completed.
	Section D	3.022	56,801 10	23,765 54	Work completed.
45	Palmer:				
	Sections A and C	1.795	35,900 00	35,900 00	Work completed.
46	Upton-Hopedale:				
	Section A	1.672	33,440 00	33,440 00	Work completed.

* All of these projects are now, or will be later, State highways.

STATEMENT OF FEDERAL AID ROAD PROJECTS TO NOV. 30, 1930 — *Continued*

No.	TOWN OR CITY	Miles	Amount of Federal Aid involved	Amount received	Remarks
47	Barre-Oakham	1.737	37,200 75	37,200 75	Work completed.
50	Lunenburg	1.763	35,260 00	35,260 00	Work completed.
51	Mendon-Uxbridge:				
	Section A	1.959	39,180 00	39,180 00	Work completed.
	Section B	2.504	50,080 00	50,080 00	Work completed.
52	Oxford	3.208	64,160 00	64,160 00	Work completed.
53	East Brookfield-Spencer-West Brookfield:				
	Section A	0.890	17,800 00	17,800 00	Work completed.
	Section B	1.682	33,640 00	33,640 00	Work completed.
54	Leicester:				
	Section A	0.829	16,580 00	16,580 00	Work completed.
	Section B	2.691	53,820 00	53,820 00	Work completed.
55	Quincy	0.549	10,980 00	10,980 00	Work completed.
56	Stoughton	2.141	42,820 00	42,820 00	Work completed.
57	Winchester-Woburn	3.042	59,131 31	59,131 31	Work completed.
58	Littleton	1.345	26,900 00	26,900 00	Work completed.
59	Egremont	0.784	15,678 18	15,678 18	Work completed.
60	Middleton-Danvers	1.907	38,224 70	38,224 70	Work completed.
61	Winchendon-Templeton	5.393	106,117 44	106,117 44	Work completed.
62	Danvers-Topsfield:				
	Section A	3.009	60,180 00	60,180 00	Work completed.
	Section B	3.513	76,959 91	76,959 91	Work completed.
63	Essex-Ipswich	4.489	89,780 00	89,780 00	Work completed.
64	Norwood	1.065	21,300 00	21,300 00	Work completed.
65	North Adams	1.638	32,760 00	32,760 00	Work completed.
69	Haverhill	2.657	53,049 24	53,049 24	Work completed.
70	Palmer	2.550	51,000 00	51,000 00	Work completed.
71	Wrentham	1.846	36,940 00	36,940 00	Work completed.
72	Walpole	3.078	61,560 00	61,560 00	Work completed.
73	Southwick	6.879	111,757 95	111,757 95	Work completed.
74	Becket	0.156	13,095 66	13,095 66	Work completed.
R74	Becket	0.189	10,290 54	10,290 54	Work completed.
75	Topsfield-Ipswich-Rowley-Newbury:				
	Section A	10.207	207,163 37	207,163 37	Work completed.
76	Norfolk	1.447	28,940 00	28,940 00	Work completed.
77	Merrimac	1.020	20,397 73	20,397 73	Work completed.
78	Burlington	3.761	75,220 00	75,220 00	Work completed.
79	Great Barrington	2.991	59,820 00	59,820 00	Work completed.
79B	Great Barrington	0.028	8,522 99	8,522 99	Work completed.
80	Lee:				
	Section A	0.909	18,180 00	18,180 00	Work completed.
	Section B	0.283	4,245 00	4,245 00	Work completed.
83	Pembroke	2.121	31,815 00	31,815 00	Work completed.
84	Sterling-West Boylston	3.491	51,974 04	51,974 04	Work completed.
85	Dalton-(Hinsdale Road):				
	Section A	1.033	20,660 00	20,660 00	Work completed.
	Section B	0.066	7,120 50	7,120 50	Work completed.
86	Gay Head	3.117	40,783 51	40,783 51	Work completed.
87	Dalton (Windsor Road):				
	Section A	1.056	21,120 00	21,120 00	Work completed.
	Section B	0.038	5,429 50	5,429 50	Work completed.
88	Erving	4.537	67,485 00	67,485 00	Work completed.
89	Easton:				
	Sections A and B	3.540	70,800 00	70,800 00	Work completed.
	Section C	3.840	62,400 00	62,400 00	Work completed.
90	Brookfield-E. Brookfield	1.227	25,324 95	25,324 95	Work completed.
91	Lowell	0.977	19,537 87	19,537 87	Work completed.
93	Wilbraham	0.208	67,506 06	67,506 06	Work completed.
94	Otis-Sandisfield	7.565	122,931 25	122,931 25	Work completed.
95	Westfield	0.148	12,677 08	12,677 08	Work completed.
96	Rochester-Wareham	4.031	68,979 93	68,979 93	Work completed.
98	Sheffield	3.052	61,133 85	61,133 85	Work completed.
99	Gloucester	1.191	19,353 75	19,353 75	Work completed.
100	Rutland	3.640	59,150 00	59,150 00	Work completed.
101A	Hinsdale	0.297	4,455 00	4,455 00	Work completed.
101B	Hinsdale	0.858	24,116 51	24,116 51	Work completed.
102A	Plainville-Wrentham	3.254	48,810 00	48,810 00	Work completed.
103	Adams	0.568	9,230 00	9,230 00	Work completed.
104	Milton	3.534	70,680 00	70,680 00	Work completed.
105	Rehoboth	1.438	28,760 00	28,760 00	Work completed.
106	Bourne	0.522	35,002 00	35,002 00	Work completed.
107	Southampton	2.203	44,060 00	44,060 00	Work completed.
108	Lakeville-Freetown	4.583	71,706 11	71,706 11	Work completed.
109	West Brookfield	0.066	10,283 73	10,283 73	Work completed.
110	Middleborough-Bridgewater	0.109	24,580 87	24,580 87	Work completed.
111	Braintree	0.371	7,200 00	7,200 00	Work completed.
112	No. Attleborough-Attleboro	3.278	65,560 00	65,560 00	Work completed.
113	Swansea	0.692	11,245 00	11,245 00	Work completed.
113B	Swansea-Somerset	3.503	64,439 74	64,439 74	Work completed.
114	Lenox	2.408	39,130 00	39,130 00	Work completed.
115	Plymouth	1.680	25,522 53	25,522 53	Work completed.
116	Norwood-Walpole	2.453	40,878 91	40,878 91	Work completed.
117A	Chelmsford	1.377	27,540 00	27,540 00	Work completed.
117B	Chelmsford-Tyngsborough	4.625	89,713 81	89,713 81	Work completed.

STATEMENT OF FEDERAL AID ROAD PROJECTS TO NOV. 30, 1930 — *Continued*

No.	TOWN OR CITY	Miles	Amount of Federal Aid involved	Amount received	Remarks
118A	Brookfield	0.620	12,400 00	12,400 00	Work completed.
118B	Brookfield	0.251	3,765 00	3,765 00	Work completed.
119A	Essex	0.406	8,120 00	8,120 00	Work completed.
120A	Lakeville	4.789	71,835 00	71,835 00	Work completed.
120B	Berkeley	0.864	12,960 00	12,960 00	Work completed.
120C	Taunton-Berkeley	2.758	41,370 00	41,370 00	Work completed.
120D	Taunton	0.862	12,930 00	12,930 00	Work completed.
121A	Abington	0.947	17,887 34	17,887 34	Work completed.
121B	Bridgewater	0.113	16,568 31	16,568 31	Work completed.
121C	Weymouth	2.720	40,800 00	40,800 00	Work completed.
121D	E. Bridgewater-Whitman	2.000	30,000 00	30,000 00	Work completed.
121E	Abington	1.088	14,770 42	14,770 42	Work completed.
122A	Barnstable	0.066	18,711 51	18,711 51	Work completed.
122B	Barnstable-Mashpee	2.482	36,349 09	36,349 09	Work completed.
122C	Falmouth-Mashpee	8.137	114,307 02	114,307 02	Work completed.
122D	Barnstable	5.643	44,860 06	34,744 16	Work underway.
122E	Barnstable	1.621	26,313 81		Work underway.
123A	Southampton	2.461	47,155 67	47,155 67	Work completed.
124A	Wayland	0.189	30,296 68	30,296 68	Work completed.
124B	Marlborough	1.626	\$24,390 00	\$24,390 00	Work completed.
124C	Weston	1.004	15,060 00	14,742 80	Work underway.
125A	Wareham	3.086	68,316 11	68,316 11	Work completed.
125B	Wareham	2.761	41,415 00	41,415 00	Work completed.
127A	Holyoke	4.136	62,040 00	62,040 00	Work completed.
127B	Easthampton-Northampton	1.762	74,258 69	74,258 69	Work completed.
128A	Hinadale	0.066	8,598 63	8,598 63	Work completed.
128B	Hinadale	0.952	14,280 00	14,280 00	Work completed.
129A	Dighton-Somerset	3.465	51,975 00	51,975 00	Work completed.
129B	Somerset	4.340	65,511 29	65,511 29	Work completed.
130A	Auburn-Oxford	4.208	63,120 00	63,120 00	Work completed.
131A	Wilbraham	0.530	7,950 00	7,950 00	Work completed.
131B	Wilbraham	1.012	15,180 00	15,180 00	Work completed.
132A	Duxbury-Kingston	2.123	31,845 00	31,845 00	Work completed.
133A	North Andover	0.615	9,225 00	9,225 00	Work completed.
133B	North Andover	0.771	11,565 00	11,565 00	Work completed.
133C	North Andover	2.670	35,085 00		Work underway.
134A	Barre	1.217	18,255 00	18,255 00	Work completed.
134B	Barre	1.261	18,915 00	18,915 00	Work completed.
134C	Barre	1.617	24,255 00	24,255 00	Work completed.
135A	Russell	0.557	13,919 60	13,919 60	Work completed.
135B	Westfield-Russell	3.607	54,075 00	54,075 00	Work completed.
135C	Russell	3.291	53,059 55	53,059 55	Work completed.
135D	Russell-Huntington	3.670	55,050 00	55,050 00	Work completed.
136A	Agawam	1.331	19,965 00	19,965 00	Work completed.
136B	Agawam	1.515	22,725 00	22,725 00	Work completed.
136C	Agawam	1.000	15,000 00	15,000 00	Work completed.
137A	Sheffield	0.170	22,710 05	22,710 05	Work completed.
137C	Sheffield	1.532	22,980 00	7,189 98	Work completed.
138A	Chester	0.097	10,818 36	10,818 36	Work completed.
138B	Chester	4.250	92,391 53	92,391 53	Work completed.
138C	Becket	2.742	76,054 36	48,867 91	Work underway.
139A	Brimfield	0.103	6,075 05	6,075 05	Work completed.
139B	Brimfield	4.778	68,916 18	68,916 18	Work completed.
140A	Lenox-Lee	3.519	52,785 00	52,785 00	Work completed.
140B	Lee	0.057	26,620 13	26,620 13	Work completed.
141A	Williamsburg	0.211	8,880 65	8,880 65	Work completed.
141B	Goshen-Williamsburg	5.042	93,547 40	93,547 40	Work completed.
141C	Northampton-Williamsburg	4.146	62,190 00	62,190 00	Work completed.
142A	Fitchburg-Westminster	3.960	69,171 34	69,171 34	Work completed.
142B	Gardner-Westminster	3.699	52,316 73	52,316 73	Work completed.
142C	Gardner-Templeton	4.174	62,610 00	62,610 00	Work completed.
143	Fairhaven-Mattapoisett	3.245	52,079 86	52,079 86	Work completed.
144A	Canton-Stoughton	4.306	64,436 20	64,436 20	Work completed.
145A	Ashland-Holliston	3.330	34,645 01	34,645 01	Work completed.
146A	Paxton	1.783	26,745 00	26,745 00	Work completed.
146B	Paxton-Worcester	4.930	73,950 00	73,950 00	Work completed.
147A	Lenox-Pittsfield	2.349	35,235 00	35,235 00	Work completed.
148A	Raynham	1.657	24,855 00	24,855 00	Work completed.
148B	Raynham-Taunton	2.861	42,915 00	42,915 00	Work completed.
149A	Middleborough	5.586	83,790 00	83,790 00	Work completed.
149B	Middleborough	0.831	12,465 00	12,465 00	Work completed.
150A	Littleton-Westford	1.985	29,775 00	29,775 00	Work completed.
150B	Westford	2.660	39,900 00	39,900 00	Work completed.
151A & B	Swansea-Somerset	0.464	89,138 06	89,138 06	Work completed.
152A	Dartmouth	1.401	21,015 00	21,015 00	Work completed.
152B	Dartmouth	2.858	42,870 00	42,870 00	Work completed.
152C	Westport	4.634	69,510 00	69,510 00	Work completed.
153A	Southampton-Easthampton	1.410	21,150 00	21,150 00	Work completed.
154A	Sturbridge	2.503	37,545 00	37,545 00	Work completed.
155A	West Springfield	0.549	8,235 00	8,235 00	Work completed.
156A	Orange	1.058	15,870 00	15,870 00	Work completed.
156B	Orange	2.607	39,105 00	39,105 00	Work completed.
156C	Athol-Orange	1.544	28,415 77	6,218 41	Work underway.
157A	Sandisfield-Tolland	0.644	34,803 50	34,803 50	Work completed.
R157A	Sandisfield-Tolland	0.644	5,107 62	5,107 62	Work completed.

STATEMENT OF FEDERAL AID ROAD PROJECTS TO NOV. 30, 1930 — *Continued*

No.	TOWN OR CITY	Miles	Amount of Federal Aid involved	Amount received	Remarks
157B	Sandisfield	0.473	32,037 28	32,037 28	Work completed.
157C	Sandisfield-Tolland	3.038	45,570 00	45,570 00	Work completed.
157D	Sandisfield	0.219	13,641 74	13,641 74	Work completed.
158A	Dalton	0.430	22,087 67	22,087 67	Work completed.
159A	Seekonk-Rehoboth-Swansea	1.899	49,876 52	49,876 52	Work completed.
159B	Seekonk	2.251	33,765 00	33,765 00	Work completed.
159C	Swansea	2.767	41,505 00	41,505 00	Work completed.
160A	Lenox-Lee-Stockbridge	5.453	81,795 00	81,795 00	Work completed.
161A	Brockton-W. Bridgewater	3.823	57,345 00	57,345 00	Work completed.
161B	Avon-Brockton	2.201	33,015 00	23,604 74	Work completed.
162A	Holliston	3.315	49,725 00	49,725 00	Work completed.
162B	Milford	1.790	26,850 00	26,850 00	Work completed.
163A	Amherst	0.052	3,787 09	3,787 09	Work completed.
163B	Amherst	2.100	31,500 00	31,500 00	Work completed.
164A	Westminster-Winchendon	0.750	42,931 27	42,931 27	Work completed.
164B	Westminster-Ashburnham	3.607	54,105 00	54,105 00	Work completed.
164C	Ashburnham	3.776	56,640 00	56,640 00	Work completed.
164D	Winchendon	2.826	42,390 00	42,390 00	Work completed.
165A	Winchendon	2.460	36,900 00	36,900 00	Work completed.
166	Becket-Otis	6.043	99,077 00	99,077 00	Work completed.
168A	Deerfield	3.043	45,645 00	45,645 00	Work completed.
169A	Merrimac-Amesbury	3.397	50,955 00	50,955 00	Work completed.
171A	Chelmsford	1.536	23,040 00	23,040 00	Work completed.
172A	Leominster-Sterling	2.718	40,770 00	40,770 00	Work completed.
173A	Cheshire	4.377	74,965 81	74,965 81	Work completed.
173B	Lanesboro	1.742	26,130 00	26,130 00	Work completed.
174A	Marshfield	4.533	67,995 00	67,955 00	Work completed.
175A	Sandwich	0.217	22,181 26	22,181 26	Work completed.
175B	Orleans	1.904	23,601 55	23,601 55	Work completed.
175C	Barnstable	0.927	13,905 00	13,905 00	Work completed.
175D	Sandwich	2.364	35,460 00	35,460 00	Work completed.
175E	Brewster-Orleans	7.858	106,314 45	106,314 45	Work completed.
176A	Plymouth	5.032	70,543 35	70,543 35	Work completed.
176B	Plymouth-Bourne	2.948	44,220 00	24,990 90	Work completed.
177A	Chatham	3.964	48,588 18	48,588 18	Work completed.
177B	Orleans	1.802	25,838 02	25,838 02	Work completed.
177C	Dennis	3.219	38,734 30	38,734 30	Work completed.
178A	Chelmsford	1.262	18,930 00	18,930 00	Work completed.
179A	Falmouth	3.394	50,910 00	50,910 00	Work completed.
180A	Franklin-Wrentham	3.125	46,875 00	46,875 00	Work completed.
180B	Bellingham-Franklin	3.889	58,335 00	58,335 00	Work completed.
181A	Florida-North Adams	2.818	42,270 00	42,270 00	Work completed.
181B	Florida	2.736	41,040 00	41,040 00	Work completed.
181C	North Adams-Clarksburg	3.362	50,430 00	50,430 00	Work completed.
181D	Florida-Savoy	3.702	55,530 00	55,530 00	Work completed.
182A	Lunenburg	1.312	19,680 00	19,680 00	Work completed.
183A	Amesbury-Salisbury	1.922	28,830 00	28,830 00	Work completed.
183B	Amesbury	1.329	45,345 32	45,345 32	Work completed.
184A	Charlton	2.848	42,720 00	42,720 00	Work completed.
184B	Charlton-Sturbridge	5.623	84,345 00	84,345 00	Work completed.
185A	Buckland	1.245	18,675 00	18,675 00	Work completed.
185B	Charlemont	2.433	35,640 00	35,640 00	Work completed.
185C	Charlemont	0.421	54,688 84	14,907 70	Work completed.
186	Salisbury	2.405	36,075 00	36,075 00	Work completed.
187A	Bellingham	1.225	18,375 00	18,375 00	Work completed.
187B	Hopedale-Mendon-Bellingham	2.502	34,650 00		Work underway.
188A	Townsend	3.813	57,195 00	57,195 00	Work completed.
188B	Pepperell-Groton	3.368	50,520 00	50,520 00	Work completed.
188C	Groton-Pepperell	1.627	54,509 15	9,516 49	Work underway.
188D	Townsend	0.061	17,849 72		Work underway.
188E	Townsend	0.009	2,400 58		Work underway.
189A	Marion-Wareham	0.582	78,792 57	78,792 57	Work completed.
189B	Mattapoisett	1.804	27,060 00	27,060 00	Work completed.
189C	Marion	4.554	68,310 00	68,310 00	Work completed.
189D	Wareham	1.344	20,160 00	13,966 14	Work underway.
190A	Becket	2.254	33,810 00	33,810 00	Work completed.
190B	Hinsdale	0.307	45,608 50		Work underway.
191A	Falmouth	5.896	81,094 43	81,094 43	Work completed.
191B	Falmouth	1.752	26,280 00	26,280 00	Work completed.
192A	Groveland	1.643	24,645 00	24,645 00	Work completed.
192B	Newburyport	1.745	26,175 00	26,175 00	Work completed.
193A	Hadley	1.985	25,821 78	25,821 78	Work completed.
193B	Hadley	2.662	26,852 35	26,852 35	Work completed.
194A	Athol-Phillipston-Templeton	4.738	71,070 00	71,070 00	Work completed.
195A	Mansfield-Norton	0.960	17,862 40	17,862 40	Work completed.
195B	Mansfield-Norton	2.617	39,255 00	39,255 00	Work completed.
195C	Foxborough-Wrentham	0.927	23,175 00		Work underway.
196A	Millbury-Grafton	4.440	66,600 00	66,600 00	Work completed.
197	Plymouth	6.543	96,288 19	96,288 19	Work completed.
198A	Milford-Hopedale-Upton	4.418	66,270 00	66,270 00	Work completed.
199A	Newbury	0.303	163,208 90	121,066 85	Work completed.
199B	Newbury-Rowley	4.437	122,566 46	62,185 37	Work underway.
200A	Rehoboth	1.875	28,125 00	28,125 00	Work completed.
200B	Taunton-Dighton-Rehoboth	5.690	86,868 07	86,868 07	Work completed.
201	Wilbraham	1.530	22,950 00	22,950 00	Work completed.

STATEMENT OF FEDERAL AID ROAD PROJECTS TO NOV. 30, 1930 — *Continued*

No.	TOWN OR CITY	Miles	Amount of Federal Aid Involved	Amount received	Remarks
202A	Hanover-Pembroke.	2.061	44,462 11	44,462 11	Work completed.
202B	Duxbury-Kingston-Pembroke	6.164	92,460 00		Work underway.
203	Natick-Wellesley	2.066	30,990 00	30,990 00	Work completed.
204	Erving	3.214	48,210 00	48,210 00	Work completed.
205	Dalton	0.913	22,152 43	22,152 43	Work completed.
206A	Billerica	1.898	35,399 86	35,399 86	Work completed.
206B	Billerica	0.978	14,670 00		Work underway.
207A	Bridgewater-Middleborough	10.474	179,296 63		Work completed.
208A	Weston	0.186	42,652 01	19,385 85	Work completed.
208B	Weston	1.224	18,360 00	16,655 12	Work underway.
209A	Milton-Quincy-Randolph	3.315	49,725 00		Work completed.
210A	Becket-Lee	7.192	107,880 00	87,320 68	Work underway.
210B	Becket	2.886	43,290 00	29,534 36	Work underway.
211A	Northborough-Shrewsbury-South- borough	11.272	444,715 17	241,627 87	Work underway.
211B	Framingham-Southborough	4.398	82,947 44		Work underway.
211C	Framingham-Natick	4.061	101,525 00		Work underway.
212	North Attleborough	2.123	46,890 51	39,408 28	Work completed.
213	Attleboro	1.455	71,421 53	52,496 12	Work completed.
214A	Tyngsborough	0.540	236,907 35	120,091 29	Work underway.
215A	Palmer-Monson	0.606	98,900 75	22,365 10	Work underway.
216A	Dedham	0.738	10,935 00		Work completed.
217	Chester-Huntington	3.781	62,276 87	42,535 19	Work underway.
218	Canton-Dedham-Westwood	3.947	202,012 06		Work underway.
219A	Marlborough-Northborough	5.109	87,411 93	82,268 29	Work underway.
220A	Foxborough-Plainville-Wrentham	5.722	85,830 00	67,133 86	Work underway.
221	Egremont	2.135	53,375 00		Work underway.
222	Deerfield-Greenfield	0.337	168,855 58	19,823 50	Work underway.
223A	Williamstown	1.789	44,725 00		PS&E Appr.
224A	Andover-North-Reading-Reading	4.431	125,109 01	56,711 93	Work underway.
225A	Erving	1.425	89,590 80	23,837 41	Work underway.
225B	Gill-Greenfield	5.147	162,429 00		Work underway.
225C	Erving-Gill	0.017	236,449 23		Work underway.
226A	Auburn-Worcester	4.809	143,134 13		Work underway.
226B	Millbury-Worcester	2.125	219,350 35		Work underway.
226C	Shrewsbury-Worcester	3.015	89,151 11		Work underway.
227	Foxborough-Sharon-Wrentham	4.314	178,951 92		Work underway.
228A	Uxbridge	4.171	128,280 31		Work underway.
229A	Dedham-Westwood-Needham	3.448	100,412 55		Work underway.
229B	Needham-Wellesley	3.653	110,698 82		Bids received.
230A	Salisbury	2.184	43,990 79		Work underway.
231A	Sharon-Walpole-Norwood	5.458	143,527 10		Work underway.
233A	Lakeville-Middleborough.	4.119	128,554 30		PS&E Appr.
Total		887.275	\$17,547,315 38	\$13,705,962 72	

STATEMENT OF FEDERAL EMERGENCY ADVANCE FUNDS

No.	TOWN OR CITY	Amount of Fed- eral Aid involved	Amount received
122D	Barnstable	\$116,571 15	\$116,571 15
124C	Weston	132,685 22	132,685 22
188C	Groton-Pepperell	9,516 49	9,516 49
199B	Newbury-Rowley	62,185 37	62,185 37
208B	Weston	78,216 94	78,216 94
219A	Marlborough-Northborough	329,743 37	329,743 37
220A	Foxborough-Plainville-Wrentham	286,202 25	286,202 25
224A	Andover-North Reading-Reading	90,544 85	90,544 85
225A	Erving	35,794 36	35,794 36
Total		\$1,141,460 00	\$1,141,460 00

BRIDGES

During the year the Department has prepared designs and plans for, and done other work relating to, bridges throughout the Commonwealth. The various cities and towns, the localities therein, the character of the structure and other details are as follows:

BRIDGES AND STRUCTURES BUILT OR CONTRACTED FOR

Cities and Towns, Locality and Character of Structure

Andover — Bypass over Main Street; two 33-foot spans, steel beam with reinforced concrete slab.

Auburn — Southwest Connection over tracks of the New York, New Haven and Hartford Railroad; two 45-foot spans and one 54-foot span, steel beam with reinforced concrete floor.

- Auburn — Southwest Connection over Reservoir; one 13-foot span, reinforced concrete slab.
- Bernardston — Northfield Road over tracks of the Boston and Maine Railroad; three 40-foot spans, reinforced concrete beam and slab.
- Blandford — Blotz Bridge, Otis Road over Tiffany Brook; one 21-foot span, reinforced concrete beam and slab.
- Boston — Canterbury Street under Morton Street; one 88-foot span, three-hinged steel arch with reinforced concrete floor.
- Boston — Canterbury Street over Stony Brook; one 14-foot span, reinforced concrete box culvert.
- Boston — West Roxbury Parkway under tracks of New York, New Haven and Hartford Railroad; two 45-foot spans, through plate girder.
- Bourne — over Back River; 56-foot span, steel beam with reinforced concrete floor.
- Canton — Green Lodge Street at Dedham and Westwood lines, over Neponset River; 56-foot span, reinforced concrete arch.
- Cheshire — Prout Bridge over Scrabble Brook; one 26-foot span, reinforced concrete beam and slab.
- Chester — Jacob's Ladder over Gold Mine Brook; 26-foot span, reinforced concrete beam and slab.
- Chesterfield — Munson Bridge, Williamsburg Road over The Branch; two 41-foot spans, steel beam and reinforced concrete floor.
- Colrain — Jacksonville Road over North River; one 75-foot span, steel truss.
- Dedham — Greendale Avenue at Needham line over Charles River; 55-foot span, stone arch.
- Dedham — West Street over Circumferential Highway; one 62-foot span, reinforced concrete rigid frame.
- Deerfield — Cheapside Bridge at Greenfield line over Deerfield River; three 133-foot spans, steel deck truss and two 50-foot spans, steel beam; total length 538 feet.
- Erving — Greenfield Road over tracks of Central Vermont Railroad; one 35-foot span, one 47-foot span and one 50-foot span, steel beam encased in concrete, and reinforced concrete floor.
- Erving — At Gill line over Connecticut River; one 460-foot span and two 161-foot spans, steel deck, spandrel braced arch with supported cantilever ends.
- Erving — Greenfield Road over Moore Street; one 57-foot span, steel beam, with reinforced concrete floor.
- Foxborough — Washington Street over Main Street; one 52-foot span, steel beam with reinforced concrete floor.
- Foxborough — Providence Turnpike over tracks of New York, New Haven and Hartford Railroad; three 41-foot spans, reinforced concrete beam and slab.
- Foxborough — Providence Turnpike over Neponset River; one 14-foot span, reinforced concrete box culvert.
- Framingham — Worcester Turnpike over Reservoir; one 50-foot span, steel beam and reinforced concrete floor.
- Framingham — Worcester Turnpike over Sudbury River; one 70-foot span, steel girder with reinforced concrete floor.
- Framingham — Marlborough Connection over Worcester Turnpike and tracks of New York, New Haven and Hartford Railroad; two 90-foot spans, steel plate girder with reinforced concrete floor.
- Framingham — Under Concord Street; two 50-foot spans, reinforced concrete beam and slab.
- Gill — At Greenfield line over Falls River; two 63-foot spans and one 74-foot span, deck plate girders with reinforced concrete floor.
- Great Barrington — Upper Main Street over Housatonic River; one 115-foot span, steel pony truss and reinforced concrete floor.
- Groton — Paper Mill Village at Pepperell line over Nashua River; eight 20-foot spans, reinforced concrete beam and slab on concrete pile trestle.
- Hingham — At Hull line over Weir River; three 61-foot spans, deck plate girder with reinforced concrete floor.
- Hinsdale — Washington Road over tracks of Boston and Albany Railroad; one 74-foot span, plate girder with reinforced concrete floor.

- Ipswich — Rowley Road over tracks of Boston and Maine Railroad.
- Lakeville — Bedford Street over tracks of New York, New Haven and Hartford Railroad; three 35-foot spans, steel beam and reinforced concrete floor.
- Lynnfield — Main Street at Wakefield line over Saugus River; one 12-foot span, reinforced concrete slab.
- Millbury — Southwest Connection, one 102-foot span over tracks of New York, New Haven and Hartford Railroad; and one 80-foot span over Canal of Worcester Sewage Disposal Plant; through plate girders with reinforced concrete floor.
- Millbury — Southwest Connection over Blackstone River; two 63-foot spans and one 74-foot span, plate girders and reinforced concrete floor.
- Millbury — Southwest Connection over Millbury Street; one 114-foot span, plate girder and reinforced concrete floor.
- Millis — Baltimore Street over Charles River; one 42-foot span, reinforced concrete beam and slab.
- Natick — Worcester Turnpike over Brook; one 12-foot span, reinforced concrete culvert.
- Natick — North Main Street over Worcester Turnpike; two 45-foot spans, steel beam and reinforced concrete floor.
- Natick — Worcester Turnpike over Lake Cochituate; three 23-foot spans, reinforced concrete pile and slab.
- North Andover — State Highway over Cochichewick River; one 14-foot span, reinforced concrete slab.
- Northborough — Boston Post Road over Wachusett Aqueduct; one 46-foot span, reinforced concrete beam and slab.
- Northborough — Southwest Connection over Hop Brook; one 14-foot span, reinforced concrete culvert.
- Norwood — Providence Turnpike over Neponset River; one 24-foot span, reinforced concrete beam and slab.
- Revere — Revere Beach Parkway over Broadway; one 72-foot span, three-hinged steel arch and reinforced concrete floor.
- Salem — Road from Loring Avenue over Forest River; one 11-foot span, reinforced concrete box culvert.
- Seekonk — Luther's Corner over Runnins River; one 12-foot span, reinforced concrete culvert.
- Shrewsbury — Southwest Connection over Lake Quinsigamond; one 15-foot span, reinforced concrete box culvert.
- Shrewsbury — Southwest Connection over Flints Pond; three 23-foot spans, reinforced concrete beam and slab on concrete pile trestle.
- South Hadley — Hockanum Road over Sandy Brook; three 23-foot spans, reinforced concrete pile trestle.
- Topsfield — Salem Road over Ipswich River; two 24-foot spans, reinforced concrete beam and slab.
- Uxbridge — Millville Road over Blackstone River; two 38-foot spans and one 45-foot span, reinforced concrete beam and slab.
- Uxbridge — Ironstone Road under tracks of New York, New Haven and Hartford Railroad; one 61-foot span, plate girder and reinforced concrete floor.
- Uxbridge — Ironstone Road over Emerson Brook; one 14-foot span, reinforced concrete box culvert.
- Uxbridge — Ironstone Road over Ironstone Reservoir Outlet; one 23-foot span, reinforced concrete beam and slab.
- West Stockbridge — Great Barrington Road over Williams River; one 45-foot span, reinforced concrete beam and slab.
- Westwood — Circumferential Highway over tracks of the New York, New Haven and Hartford Railroad; one 61-foot span and two 34-foot spans, steel beam and reinforced concrete floor.
- Westwood — Circumferential Highway over tracks of the New York, New Haven and Hartford Railroad; three 41-foot spans, steel beam encased in concrete and reinforced concrete floor.
- Williamsburg — Chesterfield Road over Meekins Brook; one 28-foot span, reinforced concrete beam and slab.

Williamsburg — Chesterfield Road over West Branch of Mill River; one 35-foot span, reinforced concrete beam and slab.

Worcester — Southwest Connection under tracks of Boston and Albany Railroad; two 48-foot spans, deck plate girder.

Worcester — Southwest Connection under Grafton Street; two 42-foot spans, steel beam and reinforced concrete floor.

ALTERATIONS, REPAIRS AND EXTENSIONS TO BRIDGES AND STRUCTURES MADE OR CONTRACTED FOR

Ashby — Main Street over Willard Brook; one 39-foot span, reinforced concrete arch extension.

Ashby — Townsend Road over Trap Falls Brook; one 13-foot span, stone arch extension.

Becket — Jacob's Ladder over Walker Brook; one 43-foot span, reinforced concrete beam extension.

Becket — Jacob's Ladder over Walker Brook; one 42-foot span, reinforced concrete beam extension.

Becket — Jacob's Ladder over Walker Brook; one 45-foot span, reinforced concrete beam extension.

Becket — Jacob's Ladder over Walker Brook; one 13-foot span, reinforced concrete slab extension.

Becket — Jacob's Ladder over Sparks Brook; one 15-foot span, reinforced concrete slab extension.

Becket — Jacob's Ladder over Branch of Walker Brook; one 18-foot span, reinforced concrete beam extension.

Becket — Jacob's Ladder over Walker Brook; one 22-foot span, reinforced concrete beam extension.

Fairhaven — At New Bedford line over Acushnet River; repairs to floor system.

Millis — Orchard Street over Boggastowe Brook; reinforced concrete slab extension of stone arch 11-foot span.

North Reading — At Reading line over Ipswich River; two 15-foot spans and one 29-foot span, reinforced concrete beam and pile extension.

North Reading — State highway over Martins Brook; one 25-foot span, reinforced concrete arch extension.

Northborough — Boston Post Road over Assabet River; one 39-foot span, reinforced concrete beam extension.

Palmer — Monson Road over Quabaug River; one 50-foot span and two 20-foot spans, reinforced concrete arch extension of stone arch.

Pepperell — South Street over Mill Pond outlet; two 12-foot spans, reinforced concrete culvert.

Rowley — Beans Crossing over tracks of Boston and Maine Railroad; one 40-foot span and two 37-foot spans, steel beam extension to reinforced concrete arch.

Salem — Loring Avenue over Forest River; one 10-foot span, reinforced concrete culvert extension.

Stockbridge — Bowl Road over Marsh Brook; one 17-foot span, concrete arch extension.

Sturbridge — Southbridge Road over Hobbs Brook; one 10-foot span, reinforced concrete slab extension to stone arch.

Townsend — Ashby Road over Willard Brook; one 23-foot span and one 25-foot span, stone arch extension.

Townsend — Ashby Road over Willard Brook; one 16-foot span and one 18-foot span, stone arch extension.

Townsend — Ashby Road over Willard Brook; two 40-foot spans, stone arch extension.

Townsend — Ashby Road over Pearl Hill Brook; one 20-foot span, reinforced concrete beam extension.

CONTEMPLATED BRIDGES AND STRUCTURES

Plans, Studies or Estimates Made

Cities and Towns, Locality and Character of Structure.

Arlington — Pleasant Street grade separation.

Attleboro — Washington Street over tracks of New York, New Haven and Hartford Railroad.

Ayer — West Main Street over tracks of Boston and Maine Railroad.

Bellingham — Wrentham Street over Peters River.

Boston — Viaduct over tracks of Midland Division of New York, New Haven and Hartford Railroad, Neponset River, and River Street connecting Neponset River Parkway with the proposed extension of Canterbury Street; grade separation over Neponset River Parkway; grade separations on proposed Clarendon Hills Parkway at Hyde Park Avenue, over the tracks of the New York, New Haven and Hartford Railroad, and Poplar Street.

Brookline — Grade separations at Cypress Street and at Brookline Village.

Cambridge — Grade separation at Alewife Brook Parkway.

Dedham — Providence Turnpike over Williams Street; over High Street; and grade separation at Circumferential highway.

Lexington — Grade separation of proposed highway and Waltham Street.

Lincoln — South Great Road over tracks of Fitchburg Division, Boston and Maine Railroad.

Littleton — State highway over tracks of Fitchburg Division, Boston and Maine Railroad.

Manchester — Bypass and drawbridge over Manchester Harbor.

Newbury — Newburyport Turnpike over tracks of Boston and Maine Railroad.

Newton — Worcester Turnpike over Charles River at Wellesley line; over Quinobequin Road; over Chestnut Street; concrete saddle over Aqueduct; over Centre Street; over Parker Street; and over the proposed parkway.

Pittsfield — Woodleigh Avenue over Smith Brook.

Pittsfield — Lebanon Avenue over West Branch Housatonic River.

Pittsfield — State highway over Phelps Brook.

Revere — At Point of Pines over Boston, Revere Beach and Lynn Railroad, Highway, and private property. Highway underpass under parkway.

Revere — Beach Street and Hitchborn Road over tracks of Boston and Maine Railroad and proposed highway.

Revere — Over Parkway near Revere Station and under Parkway near Eliot Circle.

Waltham — Beaver Brook Station, Main Street over tracks of Boston and Maine Railroad.

Wellesley — Worcester Turnpike over Aqueduct, over Weston Road, over Cliff Road, over Boston and Albany Railroad, over Aqueduct at Wellesley Hills Village, and under Cedar Street.

Westfield — Frog Hole bridge over Powder Mill Brook.

Westfield — Main Street over Westfield River.

Westwood — Providence Turnpike under tracks of New York, New Haven and Hartford Railroad; grade separation of proposed Providence Turnpike and connection to Neponset River Parkway.

Weymouth — Main Street over tracks of New York, New Haven and Hartford Railroad.

Winchester — Grade separation of highway and tracks of Boston and Maine Railroad.

Worthington — Huntington Road over Little River; over Mill Pond and over a brook.

Yarmouth — West Yarmouth Road over Parkers River.

Examinations, Reports, Estimates, etc., at Request of Cities and Towns

Towns, Locality and Character of Work

Great Barrington — Cottage Street bridge; examination for condition to withstand traffic as a detour during construction of State bridge.

Holland — Sturbridge Road over Quinebaug River; one 15-foot span, reinforced concrete slab.

Examinations, Reports, Estimates, etc., by direction of the Department

Cities and Towns, Locality and Subject

Billerica — At Wilmington line over Shawsheen River; examination for condition of bridge.

Cummington — Town Road over Westfield River; examination for strength of bridge.

Boston — D Street Garage of Department; design for strengthening roof beams.

North Reading — State highway over tracks of Boston and Maine Railroad; report on strength of bridge.

Norton — Easton Road over Rumford River; examination and estimate for repairs to bridge.

Bridge Plans Submitted and Examined during the Year under the provisions of Chapter 85, General Laws, as amended by Chapter 313 of Acts of 1923

Ashburnham — Westminster Street over Branch of Nashua River; one 11-foot span, reinforced concrete slab.

Barre — Old Barre Falls bridge over Ware River; one 42-foot span, plate girder.

Brockton — Oak Street bridge over Salisbury Brook; one 16-foot span, reinforced concrete slab.

Chicopee — Chicopee Center bridge over Chicopee River and Canal; three 94-foot spans, reinforced concrete arch over river, and one 40-foot span, reinforced concrete beam over Canal.

Conway — Bear River bridge; one 30-foot span, reinforced concrete arch.

Haverhill — Thompson Road bridge over East Meadow Brook; one 14-foot span, reinforced concrete slab.

Lee — Silver Street over outlet to Greenwater Pond; one 25-foot span, steel beam with reinforced concrete floor.

Montague — Footbridge at Turner's Falls, one 135-foot span, steel truss with plank floor.

Springfield — Parker Street; one 15-foot span, extension to North Branch culvert.

Sutton — At Manchaug over Mill Canal; one 14-foot span, reinforced concrete slab.

Worcester — Mill Street over Tatnuck Brook; one 34-foot span, steel beam.

Examinations, Studies, Estimates and Reports by direction of Acts and Resolves of the Legislature

Chapter 450, Acts of 1931, Section 8. This section of the Act directs the department of public works "to make surveys and prepare plans and estimates of cost of a grade separation by means of an overpass at the intersection of the Riverway and Huntington Avenue in the City of Boston." Preliminary plans and estimates have been completed.

Chapter 32, Resolves 1931. "Resolve providing for an investigation by the department of public works relative to the advisability of constructing certain highways for the purpose of relieving traffic." The resolve directs consideration to the following 1931 documents: House 16, 131, 204, 480, 483, 683, 954, and Senate 511. The investigation has been completed and the report has been filed with the clerk of the house of representatives.

Chapter 38, Resolves of 1931. "Resolve providing for an investigation by the department of public works relative to the construction and improvement of certain highways within and near the Metropolitan parks district." The investigation has been completed and a report has been filed with the clerk of the senate.

Chapter 51, Resolves of 1931. "Resolve providing for the making and preparation by the department of public works of surveys, estimates, plans and specifications for the construction of a new bridge over the Saugus River between the Point of Pines in the city of Revere and the city of Lynn." The plans and specifications have been prepared.

Chapter 54, Resolves of 1931. "Resolve providing for a study by the department of public works relative to the construction of a bridge over the Weymouth Fore River." A report has been filed with the clerk of the senate.

Chapter 56, Resolves of 1931. "Resolve providing for an investigation by the department of public works relative to the reconstruction of Fox Hill Bridge over the Saugus River." The report has been filed with the clerk of the house of representatives.

BRIDGE OVER THE MERRIMACK RIVER BETWEEN NEWBURYPORT AND SALISBURY

This bridge was placed in charge of the Massachusetts Highway Commission and made a State highway by the provisions of Chapter 716, Acts of 1912, which also provided that the expense of keeping the bridge in good repair for travel, of operating the draw and of maintaining the structure shall be paid by the Commonwealth.

The number of draw openings during the year ending Nov. 30, 1931, was 415. In 1930 the number of such openings was 335; in 1929 the number was 383; in 1928 the number was 365.

The total expenditure during the year was \$7,773.97.

The total expenditure from 1912 to Nov. 30, 1931, inclusive, was \$155,861.33.

BRIDGE OVER TAUNTON RIVER BETWEEN FALL RIVER AND SOMERSET

This bridge was placed in charge of the Massachusetts Highway Commission and made a State highway by the provisions of Chapter 717, Acts of 1912, which also provided that the expense of keeping the bridge in good repair for travel, and for operating the draw and maintaining the structure shall be paid by the Commonwealth.

The number of draw openings during the year ending Nov. 30, 1931, was 1,700. In 1930 the number of such openings was 1,812; in 1929 the number was 1,789; in 1928 the number was 1,982.

The total expenditure during the year was \$13,444.24.

The total expenditure from 1912 to Nov. 30, 1931, inclusive, was \$341,424.98.

BRIDGE OVER THE ACUSHNET RIVER BETWEEN CITY OF NEW BEDFORD AND THE TOWN OF FAIRHAVEN

This bridge, which was placed in charge of the Department of Public Works and made a State highway by the provisions of Chapter 406, Acts of 1930, which also provided that the expense of keeping the bridge in good repair for travel, operating the draw and of maintaining the structure shall be paid by the Commonwealth, was taken over by the Department on June 27, 1930.

Averaged over a period of years, the draw openings have numbered more than 2,900 annually.

The number of draw openings while in charge of the Department beginning June 27, 1930, and ending Nov. 30, 1930, was 1,069; the number of such openings during the year ending Nov. 30, 1931, was 2,564.

The total expenditure during the year was \$22,762.93.

The total expenditure while in charge of the Department has been \$32,828.49.

CONSTRUCTION OF TOWNS AND COUNTY WAYS

(Section 34, Chapter 90, General Laws, as revised by section 1, chapter 112, Acts of 1921, by chapter 288, Acts of 1925, and by Chapter 316, Acts of 1928.)

During the year the Department has contracted for work to be done in the towns/cities named in the following table, which also shows the type of road, the length contracted for, and the allotments or contributions by the State, towns, cities and counties:

COUNTIES AND TOWNS	State	CONTRIBUTIONS		Type of Road	Length con- tracted for (Feet)
		Town	County		
<i>Barnstable County</i>					
Barnstable	\$10,000 00	\$10,000 00	\$10,000 00	Bituminous concrete . . .	6,150
Bourne	12,000 00	12,000 00	12,000 00	Bridge and approaches . . .	—
Harwich	12,000 00	12,000 00	6,000 00	Bituminous concrete . . .	7,135
<i>Berkshire County</i>					
Alford	3,383 22	1,127 73	2,255 48	Stone retread	7,713
Alford	2,000 00	1,000 00	1,000 00	Gravel	1,900
Becket	1,000 00	500 00	500 00	Gravel	650
Becket	1,000 00	500 00	500 00	Gravel	1,000
Becket	2,000 00	1,000 00	1,000 00	Gravel	1,000
Cheshire	700 00	400 00	400 00	Gravel	1,600
Cheshire	10,000 00	5,500 00	3,000 00	Bituminous macadam . . .	2,633
Cheshire	1,000 00	—	2,500 00	Bridge and approaches . . .	—
Clarksburg	1,000 00	500 00	500 00	Gravel	1,050
Egremont	3,700 00	1,850 00	1,850 00	Stone retread	6,750
Florida	4,000 00	4,000 00	—	Gravel	800
Great Barrington	15,000 00	15,000 00	—	Bituminous macadam . . .	5,600

COUNTIES AND TOWNS

State

CONTRIBUTIONS
Town

County

Type of Road

Length con-
tracted for
(Feet)*Berkshire County — Continued*

Great Barrington . . .	32,500 00	32,500 00	—	Bridge and approaches	—
Hancock . . .	1,000 00	500 00	1,000 00	Gravel	750
Hancock . . .	1,200 00	300 00	—	Oiling	30,624
Hancock . . .	350 00	200 00	—	Oiling	9,400
Hancock . . .	25,000 00	1,000 00	4,000 00	Bituminous macadam	4,900
Lanesborough . . .	900 00	450 00	450 00	Stone retread	2,500
Lanesborough . . .	4,000 00	2,000 00	2,000 00	Stone retread	2,070
Lenox . . .	5,000 00	5,000 00	—	Drainage	—
Monterey . . .	64,100 00	14,550 00	19,550 00	Bituminous macadam	18,715
Monterey . . .	900 00	450 00	450 00	Stone retread	6,000
Mount Washington . . .	1,500 00	500 00	1,000 00	Gravel	550
New Marlborough . . .	2,000 00	1,500 00	1,000 00	Stone retread	5,600
New Marlborough . . .	4,500 00	2,000 00	2,000 00	Stone retread	10,400
New Marlborough . . .	1,500 00	1,500 00	1,000 00	Stone retread	5,011
New Marlborough . . .	1,000 00	1,000 00	1,000 00	Gravel	900
Otis . . .	2,000 00	500 00	2,000 00	Gravel	1,225
Richmond . . .	2,500 00	1,000 00	1,500 00	Gravel	1,350
Sandisfield . . .	4,000 00	2,000 00	2,000 00	Stone retread	9,800
Savoy . . .	24,000 00	—	8,000 00	Gravel and tar	5,400
Sheffield . . .	3,000 00	1,500 00	1,500 00	Gravel and stone retread	7,250
Stockbridge . . .	30,000 00	30,000 00	—	Bituminous macadam	7,895
Tyringham . . .	4,000 00	2,000 00	2,000 00	Stone retread	2,300
Washington . . .	4,000 00	2,000 00	2,000 00	Gravel	2,200
West Stockbridge . . .	10,000 00	5,000 00	5,000 00	Bridge and approaches	—
West Stockbridge . . .	7,000 00	3,000 00	4,000 00	Stone retread	3,440
Williamstown . . .	2,000 00	4,000 00	—	Gravel	1,950
Windsor . . .	1,000 00	500 00	500 00	Gravel and hardpan	650
Windsor . . .	1,000 00	500 00	500 00	Gravel	300

Bristol County

Attleboro . . .	15,000 00	18,000 00	15,000 00	Bituminous macadam	4,975
Berkley . . .	2,000 00	2,000 00	—	Repairs and oiling	47,300
Dighton . . .	4,000 00	6,000 00	—	Bituminous macadam	4,225
Dighton . . .	10,000 00	10,000 00	—	Bituminous macadam	3,000
Easton . . .	15,000 00	15,000 00	10,000 00	Bituminous macadam	7,720
Freetown . . .	4,000 00	1,400 00	4,000 00	Gravel	2,782
Freetown . . .	1,000 00	1,000 00	—	Repairs and oiling	65,500
Mansfield . . .	8,000 00	10,000 00	8,000 00	Bituminous macadam	2,215
Norton . . .	3,000 00	1,000 00	2,000 00	Gravel	1,650
Seekonk . . .	5,000 00	5,000 00	5,000 00	Bituminous macadam	1,750
Swansea . . .	4,000 00	4,000 00	—	Gravel	2,400
Westport . . .	3,000 00	3,000 00	3,000 00	Bituminous macadam	1,500

Essex County

Andover . . .	4,500 00	4,500 00	4,500 00	Bituminous macadam	1,762
Boxford . . .	2,500 00	2,500 00	2,500 00	Gravel	3,000
Boxford . . .	1,000 00	1,000 00	1,000 00	Gravel	1,300
Boxford . . .	1,000 00	1,000 00	1,000 00	Gravel	1,400
Boxford . . .	12,000 00	6,000 00	6,000 00	Gravel	5,300
Danvers . . .	1,000 00	1,000 00	1,000 00	Bituminous macadam	340
Danvers . . .	2,300 00	2,300 00	2,300 00	Bituminous macadam	500
Georgetown . . .	28,000 00	5,000 00	17,000 00	Bituminous macadam	8,500
Groveland . . .	3,000 00	3,000 00	3,000 00	Gravel	2,800
Hamilton . . .	12,000 00	12,000 00	12,000 00	Bituminous macadam	7,400
Ipswich . . .	4,000 00	4,000 00	4,000 00	Gravel	3,850
Lynnfield . . .	12,000 00	12,000 00	12,000 00	Bituminous macadam	5,200
Marblehead . . .	12,000 00	24,000 00	12,000 00	Bridge and approach	—
Methuen . . .	9,500 00	10,500 00	9,500 00	Bituminous macadam	7,170
Methuen . . .	8,500 00	9,500 00	8,500 00	Bituminous macadam	5,200
Newbury . . .	5,000 00	5,000 00	5,000 00	Bituminous macadam	3,940
Newbury . . .	5,000 00	5,000 00	5,000 00	Gravel and bituminous material mixed in place	5,382
Newburyport . . .	5,000 00	5,000 00	5,000 00	Bituminous material and gravel mixed in place	2,880
Rockport . . .	5,000 00	5,000 00	—	Bituminous macadam	825
Rowley . . .	17,000 00	3,000 00	10,000 00	Bituminous macadam	3,567
Rowley . . .	500 00	500 00	—	Oiling	11,000
Salisbury . . .	5,000 00	5,000 00	5,000 00	Bituminous macadam	4,581
Salisbury . . .	5,000 00	5,000 00	5,000 00	Bituminous material and gravel mixed in place	2,650
Saugus . . .	15,000 00	15,000 00	15,000 00	Bituminous macadam	7,325
Topsfield . . .	39,000 00	7,000 00	24,000 00	Bituminous macadam	8,772
Topsfield . . .	3,000 00	6,500 00	—	Bridge and approaches	—
Wenham . . .	23,000 00	4,000 00	13,000 00	Bituminous macadam	5,900
West Newbury . . .	5,500 00	5,500 00	5,500 00	Gravel	5,295

Franklin County

Ashfield . . .	4,245 00	600 00	—	Repairs and oiling	31,680
Ashfield . . .	1,500 00	1,500 00	—	Gravel	1,000
Ashfield . . .	1,500 00	1,500 00	—	Gravel	1,100
Ashfield . . .	5,000 00	1,500 00	1,000 00	Gravel	3,800
Buckland . . .	7,000 00	5,000 00	1,000 00	Bituminous macadam	3,000
Buckland . . .	1,500 00	1,000 00	—	Bituminous macadam	492
Charlemont . . .	2,000 00	1,000 00	1,000 00	Bridge and approaches	—
Colrain . . .	6,000 00	3,500 00	2,500 00	Bridge and approaches	—
Colrain . . .	2,000 00	1,000 00	1,000 00	Gravel	1,400
Conway . . .	3,000 00	2,000 00	1,000 00	Gravel	2,200
Deerfield . . .	4,000 00	3,000 00	1,000 00	Bituminous macadam	1,850
Gill . . .	2,965 00	670 00	—	Repairs and oiling	35,376

COUNTIES AND TOWNS

	State	Town	County	Type of Road	Length contracted for (Feet)
<i>Franklin County — Continued</i>					
Gill	2,000 00	1,000 00	1,000 00	Gravel	1,637
Greenfield	7,500 00	6,000 00	1,000 00	Bituminous macadam	1,200
Greenfield	6,000 00	6,000 00	1,000 00	Bituminous macadam	3,700
Hawley	1,400 00	700 00	700 00	Gravel	925
Hawley	1,400 00	700 00	700 00	Gravel	3,000
Heath	2,000 00	1,000 00	1,000 00	Gravel	1,800
Leverett	1,000 00	500 00	500 00	Gravel	1,500
Leyden	2,000 00	1,000 00	1,000 00	Gravel	1,400
Monroe	2,000 00	1,000 00	1,000 00	Gravel	2,000
New Salem	2,000 00	1,000 00	1,000 00	Repairs and oiling	18,480
New Salem	500 00	500 00	—	Repairs and oiling	4,224
New Salem	1,500 00	500 00	—	Repairs and oiling	17,600
Northfield	1,925 00	75 00	—	Gravel retread	1,848
Northfield	2,000 00	1,000 00	1,000 00	Bituminous macadam	1,700
Orange	1,000 00	1,000 00	500 00	Gravel	1,400
Orange	1,000 00	1,000 00	500 00	Repairs and oiling	5,000
Rowe	2,000 00	1,000 00	1,000 00	Gravel	1,512
Shelburne	8,500 00	7,500 00	1,000 00	Bituminous macadam	3,400
Shutesbury	2,000 00	1,000 00	1,000 00	Gravel	2,000
Sunderland	14,000 00	3,500 00	2,000 00	Bituminous macadam	4,816
Warwick	24,150 00	300 00	—	Repairs and oiling	44,880
Warwick	1,000 00	1,000 00	—	Bridge and approaches	—
Warwick	2,000 00	1,000 00	1,000 00	Gravel	1,400
Wendell	1,250 00	1,250 00	—	Repairs and oiling	15,840
Wendell	3,000 00	2,000 00	1,000 00	Gravel	1,800
Whately	2,000 00	1,000 00	1,000 00	Gravel	1,700
<i>Hampden County</i>					
Agawam	15,000 00	15,000 00	15,000 00	Bituminous macadam	9,800
Blandford	20,500 00	4,500 00	20,500 00	Bridge and approaches	—
Blandford	2,000 00	1,000 00	2,000 00	Grading	2,850
Brimfield	4,000 00	2,000 00	4,000 00	Gravel and tar mixed	3,650
Brimfield	300 00	200 00	300 00	Repairs and oiling	6,336
Brimfield	250 00	250 00	250 00	Repairs and oiling	11,088
Chester	5,000 00	1,000 00	5,000 00	Gravel	2,300
Chester	5,000 00	1,000 00	5,000 00	Stone retread	2,800
Chester	2,500 00	—	2,500 00	Stone retread	4,000
Chester	3,000 00	1,000 00	3,000 00	Stone retread	6,800
Chester	1,000 00	—	1,000 00	Gravel	1,200
Chicopee	73,000 00	—	57,000 00	Bituminous macadam	17,531
East Longmeadow	3,000 00	3,000 00	3,000 00	Gravel	6,800
Granville	14,490 00	350 00	—	Repairs and oiling	29,040
Granville	5,500 00	3,000 00	5,500 00	Gravel	2,950
Hampden	500 00	500 00	500 00	Repairs and oiling	4,000
Hampden	5,600 00	2,800 00	5,600 00	Bituminous macadam	3,100
Holland	5,000 00	1,000 00	5,000 00	Gravel	2,500
Holland	700 00	700 00	700 00	Repairs and oiling	13,464
Holyoke	25,000 00	25,000 00	25,000 00	Bituminous macadam	11,100
Ludlow	8,000 00	8,000 00	8,000 00	Bituminous macadam	6,099
Ludlow	2,000 00	2,000 00	2,000 00	Repairs and oiling	1,900
Ludlow	2,000 00	2,000 00	2,000 00	Bituminous macadam	750
Ludlow	3,000 00	3,000 00	3,000 00	Gravel	2,800
Monson	3,000 00	2,000 00	3,000 00	Bituminous macadam	1,500
Montgomery	3,000 00	1,000 00	3,000 00	Gravel	1,900
Palmer	4,000 00	4,000 00	4,000 00	Gravel	4,750
Russell	2,000 00	2,000 00	2,000 00	Stone retread	7,920
Russell	1,500 00	1,500 00	1,500 00	Gravel	1,200
Southwick	1,500 00	1,000 00	1,500 00	Bituminous macadam	1,212
Southwick	2,000 00	2,000 00	2,000 00	Bituminous macadam	200
Springfield	35,000 00	35,000 00	35,000 00	Bituminous macadam	9,500
Tolland	4,000 00	2,500 00	4,000 00	Gravel	2,500
Wales	1,500 00	1,000 00	1,500 00	Gravel	1,000
Wales	250 00	250 00	250 00	Repairs and oiling	3,450
West Springfield	15,000 00	15,000 00	15,000 00	Bituminous macadam	6,978
Westfield	15,000 00	15,000 00	15,000 00	Gravel and bituminous macadam	16,266
Westfield	2,000 00	2,000 00	2,000 00	Gravel	2,000
Westfield	2,000 00	2,000 00	2,000 00	Gravel	2,500
Wilbraham	4,000 00	4,000 00	4,000 00	Bituminous macadam	2,600
Wilbraham	2,500 00	2,500 00	2,500 00	Gravel	4,738
<i>Hampshire County</i>					
Amherst	10,000 00	10,000 00	10,000 00	Bituminous macadam	6,250
Belchertown	1,390 00	620 00	—	Repairs and oiling	16,368
Belchertown	32,500 00	7,500 00	10,000 00	Bituminous macadam	8,437
Chesterfield	11,700 00	1,800 00	4,500 00	Gravel retread	31,680
Chesterfield	6,150 00	1,100 00	2,750 00	Bridge and approaches	—
Chesterfield	1,000 00	500 00	500 00	Gravel	600
Chesterfield	1,000 00	500 00	500 00	Gravel	600
Cummington	945 00	75 00	—	Repairs and oiling	7,800
Cummington	1,000 00	500 00	500 00	Gravel	1,000
Cummington	3,000 00	1,500 00	1,500 00	Gravel	1,800
Easthampton	11,200 00	11,200 00	6,600 00	Bituminous macadam	3,150
Enfield	1,475 00	—	—	Repairs and oiling	11,616
Enfield	1,000 00	500 00	500 00	Repairs and oiling	8,876
Goshen	1,320 00	90 00	—	Repairs and oiling	9,400
Goshen	1,000 00	500 00	500 00	Gravel	750
Goshen	1,000 00	500 00	500 00	Gravel	800

COUNTIES AND TOWNS

	State	CONTRIBUTIONS Town	County	Type of Road	Length con- tracted for (Feet)
<i>Hampshire County—Continued</i>					
Goshen	500 00	500 00	—	Oiling	10,560
Granby	2,000 00	1,000 00	1,000 00	Bituminous macadam	950
Granby	4,000 00	2,000 00	2,000 00	Bituminous macadam	1,800
Greenwich	2,000 00	1,000 00	1,000 00	Repairs and oiling	33,264
Hadley	20,000 00	10,000 00	10,000 00	Bituminous macadam	5,103
Hatfield	2,000 00	2,000 00	2,000 00	Bituminous macadam	1,400
Huntington	2,000 00	1,000 00	1,000 00	Gravel	1,050
Middlefield	1,000 00	—	500 00	Gravel	500
Middlefield	2,000 00	1,000 00	1,000 00	Gravel	1,000
Middlefield	1,000 00	500 00	500 00	Gravel	750
Middlefield	1,000 00	—	—	Gravel	400
Northampton	5,000 00	5,000 00	3,000 00	Bituminous macadam	5,390
Pelham	1,000 00	500 00	500 00	Gravel	1,200
Pelham	6,800 00	1,200 00	4,000 00	Bituminous macadam	3,500
Plainfield	4,638 00	250 00	—	Oiling	13,281
Plainfield	24,000 00	1,000 00	3,000 00	Gravel and tar	2,950
South Hadley	20,000 00	10,000 00	10,000 00	Bituminous macadam	3,500
South Hadley	1,500 00	1,500 00	1,500 00	Bituminous macadam	935
Southampton	1,000 00	500 00	500 00	Stone retread	2,200
Ware	6,000 00	3,000 00	3,000 00	Repairs and oiling	11,101
Westhampton	1,500 00	750 00	750 00	Gravel	1,000
Williamsburg	10,400 00	1,600 00	4,000 00	2 Bridges and approaches	—
Worthington	1,000 00	500 00	500 00	Gravel	563
Worthington	4,000 00	2,000 00	2,000 00	Stone retread	3,800
Worthington	3,200 00	300 00	—	Repairs and calcium chloride	31,132
<i>Middlesex County</i>					
Acton	2,000 00	2,000 00	2,000 00	Repairs and oiling	76,032
Acton	2,500 00	2,500 00	2,500 00	Gravel	3,100
Acton	3,000 00	3,000 00	3,000 00	Gravel	4,500
Arlington	10,000 00	10,000 00	10,000 00	Reinforced cement concrete	2,415
Ashby	1,000 00	500 00	1,000 00	Repairs and oiling	17,952
Ashland	1,000 00	1,000 00	1,000 00	Gravel	1,500
Ashland	1,000 00	1,000 00	1,000 00	Repairs and oiling	11,616
Ashland	1,000 00	1,000 00	1,000 00	Gravel	1,796
Ashland	1,000 00	1,000 00	1,000 00	Gravel	1,500
Ayer	1,000 00	1,000 00	1,000 00	Repairs and oiling	21,550
Ayer	2,500 00	2,500 00	2,500 00	Gravel	2,550
Bedford	1,000 00	1,000 00	1,000 00	Gravel	1,500
Bedford	1,000 00	1,000 00	1,000 00	Gravel	2,100
Bedford	1,900 00	1,900 00	1,900 00	Repairs and oiling	43,296
Billerica	500 00	500 00	500 00	Gravel	780
Billerica	6,000 00	6,000 00	6,000 00	Gravel	4,000
Billerica	4,000 00	4,000 00	4,000 00	Gravel	3,000
Billerica	2,000 00	2,000 00	2,000 00	Repairs and oiling	59,664
Boxborough	1,000 00	500 00	1,000 00	Gravel	1,080
Boxborough	900 00	900 00	900 00	Repairs and oiling	32,208
Boxborough	1,000 00	500 00	1,000 00	Gravel	1,300
Burlington	3,000 00	3,000 00	3,000 00	Gravel	4,500
Burlington	3,000 00	2,000 00	1,000 00	Repairs and oiling	47,520
Burlington	2,000 00	2,000 00	2,000 00	Gravel	4,000
Carlisle	2,000 00	2,000 00	2,000 00	Oiling	66,528
Carlisle	4,000 00	2,000 00	4,000 00	Gravel	4,000
Carlisle	2,235 00	2,235 00	2,235 00	Gravel	3,300
Chelmsford	3,000 00	3,000 00	3,000 00	Gravel	3,600
Chelmsford	3,000 00	3,000 00	3,000 00	Bituminous macadam	3,750
Concord	8,400 00	8,400 00	8,400 00	Bituminous macadam	3,700
Concord	2,400 00	2,400 00	2,400 00	Bituminous macadam	900
Concord	400 00	400 00	400 00	Bituminous macadam	200
Concord	333 00	333 00	333 00	Bridge extension and bitum- inous macadam	—
Dunstable	2,000 00	1,000 00	2,000 00	Gravel	2,500
Dunstable	1,750 00	1,750 00	1,750 00	Repairs and oiling	46,458
Framingham	10,000 00	20,000 00	10,000 00	Reinforced cement concrete	3,100
Framingham	6,000 00	12,000 00	6,000 00	Bituminous macadam	5,300
Groton	4,000 00	4,000 00	4,000 00	Gravel	3,725
Groton	3,500 00	3,500 00	3,500 00	Repairs and oiling	34,320
Groton	3,000 00	3,000 00	3,000 00	Gravel	3,000
Holliston	1,750 00	1,750 00	1,750 00	Oiling	41,712
Holliston	1,000 00	1,000 00	1,000 00	Gravel	1,500
Holliston	14,500 00	2,500 00	8,000 00	Bituminous macadam	4,200
Holliston	2,500 00	2,500 00	2,500 00	Gravel	3,600
Hopkinton	2,000 00	2,000 00	2,000 00	Oiling	61,776
Hopkinton	4,000 00	2,000 00	4,000 00	Bituminous macadam	2,000
Hudson	2,000 00	2,000 00	2,000 00	Bituminous macadam	700
Lexington	12,000 00	12,000 00	12,000 00	Bituminous macadam	2,700
Lincoln	1,000 00	1,000 00	1,000 00	Repairs and oiling	36,960
Lincoln	4,000 00	4,000 00	4,000 00	Repairs and oiling	15,840
Lincoln	1,200 00	1,200 00	1,200 00	Bituminous macadam	300
Littleton	1,000 00	1,000 00	1,000 00	Gravel	1,400
Littleton	1,000 00	1,000 00	1,000 00	Gravel	2,112
Littleton	2,000 00	2,000 00	2,000 00	Repairs and oiling	44,880
Lowell	2,000 00	2,000 00	2,000 00	Gravel	3,000
Lowell	4,500 00	4,500 00	4,500 00	Bituminous macadam	2,100
Lowell	2,500 00	2,500 00	2,500 00	Bituminous macadam	1,000
Malden	17,000 00	34,000 00	17,000 00	Reinforced concrete	3,330
Marlborough	1,700 00	1,700 00	1,700 00	Gravel	1,700

COUNTIES AND TOWNS	State	CONTRIBUTIONS Town	County	Type of Road	Length con- tracted for (Feet)
<i>Middlesex County—Continued</i>					
Marlborough	3,000 00	6,000 00	3,000 00	Bituminous macadam	1,200
Marlborough	4,500 00	9,000 00	4,500 00	Bituminous macadam	1,550
Melrose	12,000 00	24,000 00	12,000 00	Cement concrete	4,053
Natick	4,500 00	4,500 00	4,500 00	Bituminous macadam	2,550
North Reading	2,000 00	2,000 00	2,000 00	Repairs and oiling	52,272
North Reading	3,000 00	3,000 00	3,000 00	Bituminous macadam	3,000
Pepperell	4,000 00	4,000 00	4,000 00	Repairs and oiling	63,888
Pepperell	4,000 00	4,000 00	4,000 00	Gravel	5,000
Reading	4,000 00	4,000 00	4,000 00	Bituminous macadam	2,500
Sherborn	2,000 00	2,000 00	2,000 00	Oiling	71,280
Sherborn	1,000 00	500 00	1,000 00	Gravel	1,200
Sherborn	10,800 00	5,400 00	10,800 00	Bituminous macadam	4,850
Sherborn	1,200 00	600 00	1,200 00	Gravel	2,500
Shirley	10,000 00	5,000 00	10,000 00	Gravel	11,690
Shirley	750 00	750 00	750 00	Repairs and oiling	39,072
Stoneham	4,800 00	4,800 00	4,800 00	Bituminous macadam	2,200
Stow	1,500 00	1,500 00	1,500 00	Repairs and oiling	41,184
Sudbury	3,000 00	3,000 00	3,000 00	Repairs and oiling	79,728
Tewksbury	4,500 00	4,500 00	4,500 00	Bituminous macadam	2,000
Tewksbury	1,500 00	1,500 00	1,500 00	Gravel	1,300
Tewksbury	2,000 00	2,000 00	2,000 00	Gravel	3,700
Townsend	1,000 00	1,000 00	1,000 00	Repairs and oiling	10,888
Townsend	6,000 00	2,000 00	4,000 00	Gravel	6,500
Tyngsborough	2,000 00	2,000 00	2,000 00	Repairs and oiling	53,856
Tyngsborough	2,000 00	1,000 00	2,000 00	Gravel	2,300
Tyngsborough	2,000 00	1,000 00	2,000 00	Gravel	2,500
Wakefield	750 00	750 00	750 00	Bridge and approaches	—
Wayland	12,000 00	12,000 00	12,000 00	Bituminous macadam	6,180
Wayland	2,500 00	4,000 00	2,500 00	Repairs and oiling	48,576
Westford	3,000 00	3,000 00	3,000 00	Gravel	4,000
Westford	6,000 00	6,000 00	6,000 00	Repairs and oiling	100,848
Westford	3,000 00	3,000 00	3,000 00	Gravel	2,600
Westford	2,000 00	2,000 00	2,000 00	Gravel	3,000
Wilmington	4,000 00	2,000 00	4,000 00	Gravel	5,500
Wilmington	750 00	750 00	750 00	Repairs and oiling	20,064
Woburn	5,500 00	11,000 00	5,500 00	Bituminous concrete and bituminous macadam	3,843
<i>Nantucket County</i>					
Nantucket	10,000 00	10,000 00	—	Bituminous concrete	4,700
<i>Norfolk County</i>					
Avon	7,300 00	7,000 00	7,000 00	Bituminous macadam	3,846
Bellingham	2,650 00	1,325 00	1,325 00	Repairs and oiling	23,700
Canton	8,000 00	8,000 00	8,000 00	Bituminous macadam	3,895
Canton	6,000 00	6,000 00	6,000 00	Bituminous macadam	2,050
Dedham	700 00	700 00	700 00	Bituminous macadam	520
Foxborough	9,999 00	9,999 00	9,999 00	Bituminous macadam	4,500
Franklin	4,000 00	4,000 00	4,000 00	Gravel	2,250
Franklin	4,800 00	4,800 00	4,800 00	Gravel	2,900
Holbrook	7,000 00	7,000 00	7,000 00	Gravel	5,350
Medway	6,000 00	6,000 00	6,000 00	Bituminous macadam	3,614
Medway	12,000 00	6,000 00	6,000 00	Bituminous macadam	4,170
Millis	3,000 00	3,000 00	3,000 00	Bituminous macadam	1,540
Millis	7,000 00	7,000 00	7,000 00	Bridge and approaches	—
Millis	1,000 00	1,000 00	1,000 00	Bituminous macadam	10,560
Millis	1,000 00	1,000 00	1,000 00	Gravel	2,000
Milton	15,000 00	15,000 00	15,000 00	Bituminous macadam	3,000
Needham	15,000 00	15,000 00	15,000 00	Bituminous macadam	6,950
Norfolk	500 00	—	500 00	Gravel	2,400
Norfolk	6,000 00	2,000 00	4,000 00	Gravel	4,964
Norfolk	1,000 00	1,000 00	1,000 00	Gravel and oiling	21,648
Norwood	10,000 00	10,000 00	10,000 00	Bituminous macadam	3,150
Plainville	10,000 00	5,000 00	5,000 00	Gravel	5,800
Randolph	6,500 00	6,500 00	6,500 00	Gravel	4,825
Sharon	10,000 00	10,000 00	10,000 00	Bituminous macadam	5,960
Sharon	5,000 00	5,000 00	5,000 00	Bituminous macadam	3,800
Stoughton	5,000 00	5,000 00	5,000 00	Bituminous macadam	24,300
Walpole	500 00	—	—	Oiling	2,200
Westwood	14,000 00	14,000 00	14,000 00	Bituminous macadam	4,896
Wrentham	3,500 00	3,500 00	3,500 00	Gravel	3,000
<i>Plymouth County</i>					
Bridgewater	3,000 00	2,000 00	2,000 00	Gravel	3,000
Bridgewater	4,000 00	3,000 00	4,000 00	Bituminous macadam	485
Carver	5,500 00	5,500 00	7,000 00	Bituminous concrete and gravel	4,000
East Bridgewater	35,000 00	17,500 00	17,500 00	Bituminous concrete	9,800
Halifax	2,000 00	1,000 00	1,000 00	Bridge and approaches	—
Halifax	23,000 00	11,500 00	11,500 00	Bituminous concrete and gravel	7,575
Hanson	10,000 00	5,000 00	5,000 00	Bituminous macadam	4,500
Hingham	24,000 00	24,000 00	24,000 00	Bituminous macadam	11,620
Kingston	6,000 00	3,500 00	3,500 00	Bituminous macadam	2,100
Middleborough	16,000 00	12,000 00	12,000 00	Bituminous macadam	6,645
Pembroke	10,000 00	6,000 00	5,000 00	Bituminous macadam	4,763
Plympton	29,500 00	8,000 00	12,500 00	Bituminous concrete	9,590
Rochester	6,000 00	3,000 00	3,000 00	Gravel	4,850
Rockland	18,000 00	9,000 00	9,000 00	Bituminous macadam	7,000
West Bridgewater	5,300 00	2,650 00	2,650 00	Bituminous macadam	1,918

COUNTIES AND TOWNS

	State	CONTRIBUTIONS Town	County	Type of Road	Length con- tracted for (Feet)
<i>Worcester County</i>					
Ashburnham	1,250 00	750 00	1,250 00	Repairs and oiling	16,896
Ashburnham	12,000 00	7,500 00	10,500 00	Gravel and tar	7,138
Athol	700 00	700 00	700 00	Repairs and oiling	15,312
Barre	1,200 00	1,200 00	1,200 00	Grading	2,200
Berlin	5,500 00	3,500 00	5,500 00	Gravel	1,875
Berlin	2,500 00	1,000 00	2,500 00	Repairs and oiling	43,296
Blackstone	2,000 00	2,000 00	2,000 00	Gravel	1,800
Blackstone	700 00	700 00	700 00	Repairs and oiling	17,424
Bolton	5,000 00	1,000 00	5,000 00	Bituminous macadam	1,450
Boylston	5,000 00	500 00	5,000 00	Repairs and gravel	5,000
Boylston	1,000 00	500 00	1,000 00	Repairs	37,658
Brookfield	2,000 00	1,000 00	2,000 00	Gravel and tar	1,400
Brookfield	4,000 00	2,000 00	4,000 00	Bituminous macadam	1,520
Brookfield	1,400 00	700 00	1,400 00	Repairs and oiling	10,096
Charlton	5,000 00	2,500 00	5,000 00	Bituminous macadam	2,000
Dana	1,600 00	400 00	1,600 00	Gravel and tar	950
Dana	2,500 00	1,000 00	2,500 00	Repairs and oiling	52,272
Fitchburg	30,000 00	30,000 00	20,000 00	Bituminous macadam	9,773
Gardner	5,000 00	10,000 00	5,000 00	Bituminous macadam	3,250
Grafton	1,500 00	1,500 00	1,500 00	Bituminous macadam	983
Hardwick	3,000 00	3,000 00	3,000 00	Bituminous macadam	2,200
Harvard	800 00	400 00	800 00	Repairs and oiling	17,424
Harvard	1,000 00	500 00	1,000 00	Repairs and oiling	9,240
Holden	1,000 00	1,000 00	1,000 00	Repairs and oiling	24,024
Hubbardston	4,000 00	2,000 00	4,000 00	Gravel and tar	2,550
Hubbardston	1,000 00	500 00	1,000 00	Repairs and oiling	42,768
Hubbardston	1,000 00	500 00	1,000 00	Gravel	1,150
Leicester	4,500 00	4,500 00	4,500 00	Gravel and tar	3,800
Lunenburg	1,000 00	500 00	1,000 00	Repairs and oiling	14,450
Lunenburg	500 00	500 00	500 00	Grading	950
Mendon	1,000 00	500 00	1,000 00	Repairs and oiling	28,512
Mendon	2,200 00	1,100 00	2,200 00	Gravel	1,400
Milford	12,000 00	12,000 00	12,000 00	Bituminous macadam	3,650
Millville	6,000 00	3,000 00	6,000 00	Gravel	3,100
New Braintree	3,000 00	1,500 00	3,000 00	Gravel and tar	3,000
New Braintree	500 00	500 00	500 00	Repairs and oiling	25,608
New Braintree	400 00	400 00	400 00	Repairs and oiling	21,120
North Brookfield	3,000 00	3,000 00	3,000 00	Gravel and tar	2,991
North Brookfield	500 00	500 00	500 00	Repairs and oiling	10,560
Northborough	5,000 00	5,000 00	5,000 00	Gravel and tar	4,283
Northborough	400 00	400 00	400 00	Repairs and oiling	7,920
Northborough	700 00	700 00	700 00	Repairs and oiling	9,768
Northbridge	4,500 00	4,500 00	4,500 00	Gravel and tar	3,250
Northbridge	4,000 00	4,000 00	4,000 00	Gravel retreat	2,600
Oakham	3,000 00	1,500 00	3,000 00	Gravel	2,400
Oakham	600 00	600 00	600 00	Repairs and oiling	23,760
Oxford	500 00	500 00	500 00	Repairs and oiling	17,134
Paxton	500 00	500 00	500 00	Gravel	850
Paxton	4,000 00	2,000 00	4,000 00	Gravel and tar	2,600
Paxton	1,200 00	600 00	1,200 00	Repairs and oiling	15,048
Phillipston	1,300 00	400 00	1,300 00	Repairs and oiling	21,384
Phillipston	4,500 00	1,000 00	4,500 00	Gravel and tar	3,687
Princeton	4,000 00	2,000 00	4,000 00	Gravel and tar	3,700
Princeton	2,400 00	600 00	3,000 00	Gravel and tar	2,700
Princeton	1,000 00	500 00	1,000 00	Repairs and oiling	22,704
Princeton	300 00	200 00	300 00	Repairs and oiling	3,960
Princeton	1,200 00	600 00	1,200 00	Repairs and oiling	2,800
Princeton	400 00	200 00	400 00	Repairs and oiling	16,104
Royalston	500 00	500 00	500 00	Repairs and oiling	11,088
Royalston	4,000 00	2,000 00	4,000 00	Gravel and tar	4,142
Royalston	400 00	200 00	400 00	Repairs and oiling	13,200
Royalston	1,200 00	800 00	1,200 00	Repairs and oiling	25,608
Rutland	4,000 00	2,000 00	4,000 00	Gravel	40,664
Rutland	4,000 00	2,000 00	4,000 00	Gravel and tar	3,250
Southborough	1,700 00	1,700 00	1,700 00	Bituminous macadam	3,900
Southborough	500 00	500 00	500 00	Repairs and oiling	35,904
Spencer	5,000 00	5,000 00	5,000 00	Grading	5,466
Spencer	200 00	500 00	200 00	Repairs and oiling	20,064
Sterling	4,000 00	2,000 00	4,000 00	Gravel and tar	4,700
Sterling	12,000 00	6,000 00	12,000 00	Gravel	3,400
Sterling	2,000 00	1,000 00	2,000 00	Repairs and oiling	24,816
Sturbridge	2,000 00	1,000 00	2,000 00	Gravel and tar	1,650
Sutton	10,000 00	5,000 00	10,000 00	Bituminous macadam	4,590
Sutton	1,200 00	600 00	1,200 00	Repairs and oiling	10,197
Templeton	500 00	500 00	500 00	Repairs and oiling	6,072
Templeton	1,000 00	1,000 00	1,000 00	Repairs and oiling	18,744
Templeton	800 00	800 00	800 00	Repairs and oiling	13,200
Upton	4,000 00	2,000 00	4,000 00	Gravel	2,800
Warren	3,000 00	3,000 00	3,000 00	Gravel	2,000
West Boylston	1,000 00	500 00	1,000 00	Repairs and oiling	15,576
West Boylston	333 33	333 33	333 33	Repairs and oiling	8,450
West Brookfield	2,000 00	1,000 00	2,000 00	Gravel and tar	1,900
Westborough	10,000 00	9,000 00	11,000 00	Bituminous macadam	4,150
Westborough	10,000 00	10,000 00	10,000 00	Bituminous macadam	5,300
Westminster	2,000 00	1,000 00	2,000 00	Gravel	1,100
Westminster	2,000 00	1,000 00	2,000 00	Gravel	1,600
Westminster	1,600 00	800 00	1,600 00	Repairs and oiling	23,496
Winchendon	700 00	700 00	700 00	Gravel	2,700

EXPENDITURES FOR CONSTRUCTION OF TOWN AND COUNTY WAYS

The expenditures during the year in various Counties were: —

Barnstable, \$46,508.93	Hampshire, \$215,680.46
Berkshire, \$332,335.04	Middlesex, \$404,964.40
Bristol, \$85,430.40	Nantucket, \$11,889.89
Dukes, \$10,902.17	Norfolk, \$205,054.60
Essex, \$533,236.76	Plymouth, \$210,485.70
Franklin, \$177,397.78	Worcester, \$343,186.90
Hampden, \$299,317.33	Total, \$2,876,390.36

Details of the foregoing expenditures follow: —

Barnstable County. — Barnstable, \$10,213.74; Bourne, \$630.32; Harwich, \$34,422.74; Provincetown, \$1,242.13.

Berkshire County. — Adams, \$2,210.32; Alford, \$6,928.01; Becket, \$4,876.10; Cheshire, \$14,800.69; Clarksburg, \$1,219.02; Egremont, \$4,510.41; Florida, \$4,875.15; Great Barrington, \$21,033.80; Hancock, \$26,684.26; Hinsdale, \$9,943.32; Lanesborough, \$5,972.30; Lenox, \$11,496.69; Monterey, \$63,731.41; Mount Washington, \$1,828.54; New Marlborough, \$10,971.22; North Adams, \$6,095.12; Otis, \$7,305.35; Peru, \$23,637.03; Richmond, \$3,047.51; Sandisfield, \$4,876.10; Savoy, \$25,702.48; Sheffield, \$3,657.07; Stockbridge, \$37,396.15; Tyringham, \$4,869.49; Washington, \$4,876.05; West Stockbridge, \$14,915.35; Williamstown, \$2,438.05; Windsor, \$2,438.05.

Bristol County. — Attleboro, \$10,087.56; Berkley, \$3,499.41; Dighton, \$19,738.57; Easton, \$18,285.37; Freetown, \$4,319.41; Mansfield, \$8,114.63; Norton, \$6,322.80; Rehoboth, \$1,364.54; Seekonk, \$4,806.57; Swansea, \$5,234.46; Westport, \$3,657.08.

Dukes County. — Chilmark, \$10,902.17.

Essex County. — Andover, \$249,902.46; Boxford, \$27,939.35; Danvers, \$2,766.59; Georgetown, \$32,357.13; Groveland, \$6,095.12; Hamilton, \$14,628.30; Haverhill, \$3,884.09; Ipswich, \$7,276.48; Lynnfield, \$10,615.64; Marblehead, \$7,494.56; Merrimac, \$4,429.38; Methuen, \$21,942.50; Middleton, \$3,047.56; Newbury, \$2,993.72; Newburyport, \$883.87; No. Andover, \$35,219.91; Rockport, \$8,023.92; Rowley, \$12,178.38; Salisbury, \$7,810.23; Saugus, \$11,769.89; Topsfield, \$36,215.30; Wenham, \$18,181.74; West Newbury, \$7,580.64.

Franklin County. — Ashfield, \$14,921.47; Buckland, \$18,894.93; Charlemont, \$2,435.98; Colrain, \$9,099.86; Conway, \$3,657.07; Deerfield, \$4,870.39; Gill, \$6,052.48; Greenfield, \$21,262.85; Hawley, \$3,413.30; Heath, \$2,438.05; Leverett, \$1,219.02; Leyden, \$2,438.05; Monroe, \$2,438.05; Montague, \$4,201.44; New Salem, \$4,876.10; Northfield, \$4,738.02; Orange, \$2,590.74; Rowe, \$2,438.05; Shelburne, \$10,361.71; Shutesbury, \$2,438.05; Sunderland, \$13,845.32; Warwick, \$30,377.47; Wendell, \$5,180.88; Whately, \$3,208.50.

Hampden County. — Agawam, \$20,206.88; Blandford, \$24,625.37; Brimfield, \$7,314.67; Chester, \$20,316.60; Chicopee, \$19,295.19; East Longmeadow, \$3,657.03; Granville, \$24,368.38; Hampden, \$7,436.06; Holland, \$6,287.39; Holyoke, \$29,256.65; Ludlow, \$26,763.19; Monson, \$3,924.34; Montgomery, \$3,657.07; Palmer, \$12,174.97; Russell, \$4,266.59; Southwick, \$11,780.52; Springfield, \$9,128.91; Tolland, \$4,876.10; Wales, \$2,789.28; Westfield, \$28,729.01; West Springfield, \$20,582.81; Wilbraham, \$7,880.32.

Hampshire County. — Amherst, \$12,068.28; Belchertown, \$31,401.80; Chesterfield, \$21,550.50; Cummington, \$6,028.08; Easthampton, \$13,939.84; Enfield, \$3,017.08; Goshen, \$4,656.67; Granby, \$7,314.15; Greenwich, \$2,438.05; Hadley, \$12,647.15; Hatfield, \$2,438.05; Huntington, \$2,438.03; Middlefield, \$12,534.95; Northampton, \$6,095.12; Pelham, \$9,153.71; Plainfield, \$11,282.40; Southampton, \$1,219.02; South Hadley, \$25,815.99; Ware, \$7,314.15; Westhampton, \$1,828.54; Williamsburg, \$6,613.62; Worthington, \$13,885.28.

Middlesex County. — Acton, \$9,142.69; Arlington, \$14,720.69; Ashby, \$1,218.98; Ashland, \$5,679.24; Ayer, \$10,038.94; Bedford, \$5,933.04; Billerica, \$11,532.41; Boxborough, \$3,192.88; Burlington, \$9,504.78; Carlisle, \$10,638.99; Chelmsford, \$8,531.64; Concord, \$16,496.90; Dunstable, \$4,570.99; Framingham, \$15,489.08; Groton, \$12,790.36; Holliston, \$21,869.29; Hopkinton, \$7,313.84; Hudson, \$4,588.24; Lexington, \$10,550.83; Lincoln, \$6,887.49; Littleton, \$4,864.94;

Lowell, \$15,056.67; Malden, \$16,647.99; Marlboro, \$15,299.28; Melrose, \$11,213.79; Natick, \$4,871.16; North Reading, \$6,095.10; Pepperell, \$9,749.30; Reading, \$4,876.10; Sherborn, \$15,511.18; Shirley, \$10,422.10; Stoneham, \$13,160.44; Stow, \$1,828.54; Sudbury, \$3,657.00; Tewksbury, \$9,752.20; Townsend, \$8,386.92; Tyngsboro, \$9,746.86; Wakefield, \$452.03; Waltham, \$1,617.63; Watertown, \$1,021.83; Wayland, \$14,974.27; Westford, \$16,306.02; Weston, \$2,438.10; Wilmington, \$8,059.44; Woburn, \$8,264.21.

Nantucket County. — Nantucket, \$11,889.89.

Norfolk County. — Avon, \$8,261.28; Bellingham, \$4,382.70; Canton, \$13,181.92; Dedham, \$1,029.60; Dover, \$10,628.31; Foxboro, \$16,557.68; Franklin, \$7,957.73; Holbrook, \$6,347.60; Medway, \$23,138.23; Millis, \$14,889.58; Milton, \$14,336.76; Needham, \$17,895.09; Norfolk, \$12,231.85; Norwood, \$6,896.57; Plainville, \$8,074.24; Randolph, \$3,124.26; Sharon, \$13,754.10; Stoughton, \$6,277.46; Westwood, \$14,261.10; Wrentham, \$1,828.54.

Plymouth County. — Bridgewater, \$7,381.45; Carver, \$6,680.49; East Bridgewater, \$35,830.44; Halifax, \$19,289.44; Hanover, \$289.34; Hanson, \$14,103.70; Hingham, \$22,135.32; Kingston, \$7,266.51; Marshfield, \$8,278.91; Middleborough, \$12,953.71; Pembroke, \$13,287.30; Plympton, \$31,144.35; Rochester, \$9,032.98; Rockland, \$15,357.62; Wareham, \$3,136.65; West Bridgewater, \$4,317.49.

Worcester County. — Ashburnham, \$8,646.76; Athol, \$1,908.46; Barre, \$454.57; Berlin, \$6,815.30; Blackstone, \$4,292.26; Bolton, \$4,834.15; Boylston, \$7,314.09; Brookfield, \$9,917.91; Charlton, \$8,564.95; Dana, \$4,998.00; Fitchburg, \$22,073.42; Gardner, \$7,599.04; Grafton, \$1,615.63; Hardwick, \$4,512.58; Harvard, \$13,780.22; Holden, \$2,391.98; Hubbardston, \$11,824.29; Leicester, \$9,380.54; Lunenburg, \$1,822.84; Mendon, \$4,188.40; Milford, \$11,940.43; Millbury, \$2,402.67; Millville, \$7,782.72; New Braintree, \$5,426.43; North Brookfield, \$3,552.41; Northborough, \$3,374.80; Northbridge, \$6,343.23; Oakham, \$5,400.95; Oxford, \$604.91; Paxton, \$8,914.89; Petersham, \$4,935.84; Phillipston, \$6,762.95; Princeton, \$9,238.58; Royalston, \$8,164.10; Rutland, \$8,048.37; Southborough, \$2,660.03; Spencer, \$6,863.06; Sterling, \$31,344.51; Sturbridge, \$2,438.05; Sutton, \$8,864.38; Templeton, \$3,377.12; Upton, \$5,649.03; Uxbridge, \$1,423.62; Warren, \$3,636.30; West Boylston, \$4,600.66; West Brookfield, \$3,535.92; Westborough, \$23,233.05; Westminster, \$7,387.14; Winchendon, \$8,345.36.

REPAIR AND IMPROVEMENT OF PUBLIC WAYS, EXCLUSIVE OF STATE HIGHWAYS, IN CERTAIN TOWNS

(Sections 26 to 29 and 31 of chapter 81, General Laws, as amended)

During the year the Department contracted for work to be done in the towns named in the following table, which also shows the road mileage in the towns and the allotments or contributions by the State and towns: —

Counties and Towns	Miles of Road	Allotments	
	State	Town	
<i>Barnstable County:</i>			
Brewster	40	\$4,000 00	\$4,000 00
Dennis	78	7,800 00	7,800 00
Eastham	41	4,100 00	3,075 00
Mashpee	27	2,700 00	2,025 00
Sandwich	67	6,700 00	5,025 00
Truro	28	2,800 00	2,100 00
Wellfleet	35	3,500 00	3,500 00
Yarmouth	51	5,100 00	7,650 00
<i>Berkshire County:</i>			
Alford	19	1,900 00	760 00
Becket	58	5,800 00	2,320 00
Cheshire	42	4,200 00	4,200 00
Clarksburg	14	1,400 00	2,100 00

Counties and Towns	Miles of Road	Allotment		
	State	Town		
<i>Berkshire County — Con.</i>				
Egremont	32	3,200 00	2,400 00	
Florida	43	4,300 00	3,225 00	
Hancock	30	3,000 00	1,500 00	
Hinsdale	35	3,500 00	2,625 00	
Lanesborough	41	4,100 00	3,075 00	
Monterey	52	5,200 00	2,080 00	
Mount Washington	20	2,000 00	500 00	
New Ashford	9	900 00	360 00	
New Marlborough	85	8,500 00	3,400 00	
Otis	48	4,800 00	1,200 00	
Peru	37	3,700 00	555 00	
Richmond	34	3,400 00	1,700 00	
Sandisfield	79	7,900 00	1,185 00	
Savoy	56	5,600 00	840 00	
Sheffield	77	7,700 00	3,850 00	
Tyringham	25	2,500 00	1,250 00	
Washington	51	5,100 00	765 00	
West Stockbridge	36	3,600 00	2,700 00	
Windsor	66	6,600 00	990 00	
<i>Bristol County:</i>				
Berkley	42	4,200 00	2,100 00	
Freetown	47	4,700 00	4,700 00	
Norton	55	5,500 00	6,875 00	
Raynham	45	4,500 00	4,500 00	
Rehoboth	109	10,900 00	5,450 00	
Swansea	55	5,500 00	8,250 00	
<i>Dukes County:</i>				
Chilmark	14	\$1,400 00	\$1,400 00	
West Tisbury	13	1,300 00	1,625 00	
<i>Essex County:</i>				
Boxford	52	5,200 00	2,600 00	
Essex	21	2,100 00	3,150 00	
Georgetown	34	3,400 00	4,250 00	
Groveland	29	2,900 00	4,350 00	
Merrimac	31	3,100 00	4,650 00	
Middleton	30	3,000 00	3,750 00	
Newbury	36	3,600 00	5,400 00	
Rowley	31	3,100 00	3,875 00	
Topsfield	38	3,800 00	5,700 00	
West Newbury	37	3,700 00	2,775 00	
<i>Franklin County:</i>				
Ashfield	80	8,000 00	3,200 00	
Bernardston	40	4,000 00	3,000 00	
Buckland	45	4,500 00	6,750 00	
Charlemont	49	4,900 00	3,675 00	
Colrain	84	8,400 00	4,200 00	
Conway	73	7,300 00	1,825 00	
Gill	36	3,600 00	2,700 00	
Hawley	49	4,900 00	735 00	
Heath	53	5,300 00	795 00	
Leverett	38	3,800 00	1,520 00	
Leyden	40	4,000 00	600 00	
Monroe	18	1,800 00	2,700 00	
Northfield	66	6,600 00	4,950 00	
New Salem	64	6,400 00	1,600 00	
Rowe	41	4,100 00	2,050 00	

Counties and Towns	Miles of Road	Allotments	
		State	Town
<i>Franklin County — Con.</i>			
Shelburne	48	4,800 00	6,000 00
Shutesbury	40	4,000 00	1,000 00
Sunderland	34	3,400 00	3,400 00
Warwick	55	5,500 00	1,375 00
Wendell	48	4,800 00	2,400 00
Whately	40	4,000 00	3,000 00
<i>Hampden County:</i>			
Blandford	83	8,300 00	2,075 00
Brimfield	59	5,900 00	2,950 00
Chester	66	6,600 00	4,950 00
Granville	73	7,300 00	1,825 00
Hampden	34	3,400 00	1,700 00
Holland	30	3,000 00	450 00
Monson	101	10,100 00	10,100 00
Montgomery	27	2,700 00	675 00
Southwick	50	5,000 00	3,750 00
Tolland	41	4,100 00	615 00
Wales	25	2,500 00	1,250 00
Wilbraham	43	4,300 00	6,450 00
<i>Hampshire County:</i>			
Belchertown	115	11,500 00	4,600 00
Chesterfield	59	5,900 00	885 00
Cummington	49	4,900 00	1,225 00
Enfield	37	3,700 00	1,480 00
Goshen	28	2,800 00	1,120 00
Hadley	58	5,800 00	7,250 00
Granby	48	4,800 00	2,400 00
Greenwich	39	3,900 00	975 00
Huntington	40	4,000 00	4,000 00
Hatfield	46	4,600 00	6,900 00
Middlefield	38	3,800 00	570 00
Pelham	39	3,900 00	1,950 00
Plainfield	49	4,900 00	735 00
Prescott	39	3,900 00	585 00
Southampton	56	5,600 00	2,240 00
Westhampton	50	5,000 00	750 00
Williamsburg	43	4,300 00	4,300 00
Worthington	73	7,300 00	1,095 00
<i>Middlesex County:</i>			
Acton	58	5,800 00	7,250 00
Ashby	56	5,600 00	2,800 00
Ashland	38	3,800 00	5,700 00
Boxborough	23	2,300 00	920 00
Burlington	33	3,300 00	4,950 00
Carlisle	43	4,300 00	1,720 00
Dunstable	37	3,700 00	925 00
Holliston	50	5,000 00	7,500 00
Hopkinton	66	6,600 00	6,600 00
Lincoln	40	4,000 00	6,000 00
Littleton	42	4,200 00	5,250 00
North Reading	31	3,100 00	4,650 00
Pepperell	68	6,800 00	8,500 00
Sherborn	43	4,300 00	4,300 00
Shirley	46	4,600 00	5,750 00
Stow	45	4,500 00	3,375 00
Sudbury	62	6,200 00	6,200 00

Counties and Towns	Miles of Road	Allotments	
		State	Town
<i>Middlesex County — Con.</i>			
Tewksbury	56	5,600 00	7,000 00
Townsend	70	7,000 00	5,250 00
Tyngsborough	40	4,000 00	3,000 00
<i>Norfolk County:</i>			
Bellingham	42	4,200 00	6,300 00
Medfield	40	4,000 00	6,000 00
Medway	44	4,400 00	6,600 00
Millis	39	3,900 00	5,850 00
Norfolk	40	4,000 00	4,000 00
Plainville	34	3,400 00	4,250 00
Wrentham	43	4,300 00	6,450 00
<i>Plymouth County:</i>			
Carver	67	6,700 00	6,700 00
Halifax	33	3,300 00	3,300 00
Hanson	36	3,600 00	5,400 00
Lakeville	45	4,500 00	3,375 00
Norwell	47	4,700 00	4,700 00
Pembroke	47	4,700 00	5,875 00
Plympton	30	3,000 00	1,500 00
Rochester	49	4,900 00	3,675 00
West Bridgewater	39	3,900 00	5,850 00
<i>Worcester County:</i>			
Ashburnham	75	7,500 00	5,625 00
Barre	120	12,000 00	9,000 00
Berlin	39	3,900 00	2,925 00
Bolton	53	5,300 00	2,650 00
Boylston	41	4,100 00	2,050 00
Brookfield	37	3,700 00	3,700 00
Charlton	115	11,500 00	4,700 00
Dana	43	4,300 00	1,720 00
Douglas	70	7,000 00	5,250 00
East Brookfield	19	1,900 00	2,375 00
Harvard	56	5,600 00	5,600 00
Hardwick	96	9,600 00	7,200 00
Holden	77	7,700 00	9,625 00
Hubbardston	75	7,500 00	1,875 00
Lancaster	58	5,800 00	7,250 00
Leicester	56	5,600 00	8,400 00
Lunenburg	67	6,700 00	5,025 00
Mendon	36	3,600 00	2,700 00
New Braintree	49	4,900 00	1,225 00
North Brookfield	69	6,900 00	6,900 00
Northborough	47	4,700 00	4,700 00
Oakham	45	4,500 00	1,125 00
Oxford	66	6,600 00	8,250 00
Paxton	29	2,900 00	2,175 00
Petersham	71	7,100 00	5,325 00
Phillipston	41	4,100 00	1,025 00
Princeton	72	7,200 00	2,880 00
Royalston	67	6,700 00	2,680 00
Rutland	68	6,800 00	3,400 00
Southborough	48	4,800 00	7,200 00
Spencer	100	10,000 00	12,500 00
Sterling	72	7,200 00	5,400 00
Sturbridge	66	6,600 00	3,300 00
Sutton	84	8,400 00	4,200 00

Counties and Towns	Miles of Road		Allotments State Town	
<i>Worcester County — Con.</i>				
Templeton	62	6,200 00	7,700 00	
Upton	60	6,000 00	4,500 00	
Warren	60	6,000 00	9,000 00	
West Boylston	35	3,500 00	4,375 00	
West Brookfield	53	5,300 00	3,975 00	
Westborough	57	5,700 00	8,550 00	
Westminster	77	7,700 00	3,850 00	

EXPENDITURES FOR REPAIR AND IMPROVEMENT OF PUBLIC WAYS

The expenditures during the year in various counties were: —

Barnstable, \$39,103.74	Hampden, \$68,811.00
Berkshire, \$116,960.91	Hampshire, \$97,917.10
Bristol, \$38,296.95	Middlesex, \$102,739.99
Dukes, \$3,102.81	Norfolk, \$31,884.17
Essex, \$19,151.74	Plymouth, \$43,641.80
Franklin, \$115,296.83	Worcester, \$268,965.42
	Total, \$945,872.46

Details of the foregoing expenditures follow: —

Barnstable County. — Brewster, \$4,285.35; Dennis, \$8,257.17; Eastham, \$4,404.32; Mashpee, \$2,820.74; Sandwich, \$7,177.69; Truro, \$3,102.81; Wellfleet, \$3,804.74; Yarmouth, \$5,250.92.

Berkshire County. — Alford, \$2,061.31; Becket, \$7,023.05; Cheshire, \$4,519.08; Clarksburg, \$1,326.27; Egremont, \$3,396.89; Florida, \$5,857.67; Hancock, \$3,113.07; Hinsdale, \$3,735.16; Lanesborough, \$4,929.33; Monterey, \$5,970.36; Mt. Washington, \$3,037.72; New Ashford, \$247.99; New Marlborough, \$10,228.89; Otis, \$5,058.47; Peru, \$5,130.59; Richmond, \$3,921.35; Sandisfield, \$9,132.54; Savoy, \$6,051.09; Sheffield, \$13,374.64; Tyringham, \$2,371.44; Washington, \$5,954.66; West Stockbridge, \$3,419.28; Windsor, \$7,100.06.

Bristol County. — Berkley, \$4,556.58; Freetown, \$5,099.02; Norton, \$5,966.95; Raynham, \$4,882.05; Rehoboth, \$11,825.40; Swansea, \$5,966.95.

Dukes County. — Chilmark, \$1,588.29; West Tisbury, \$1,514.52.

Essex County. — Boxford, \$4,656.92; Groveland, \$2,603.76; Merrimac, \$3,254.70; Middleton, \$2,893.06; Rowley, \$2,448.08; Topsfield, \$3,295.22.

Franklin County. — Ashfield, \$9,302.58; Bernardston, \$4,366.39; Buckland, \$5,207.49; Charlemont, \$5,451.60; Colrain, \$8,814.81; Conway, \$8,082.50; Gill, \$3,905.64; Hawley, \$5,316.01; Heath, \$5,749.97; Leverett, \$4,122.62; Leyden, \$4,339.60; Monroe, \$1,952.82; New Salem, \$7,295.95; Northfield, \$7,323.07; Rowe, \$4,692.19; Shelburne, \$5,532.99; Shutesbury, \$4,339.60; Sunderland, \$3,607.29; Warwick, \$5,966.88; Wendell, \$5,587.23; Whately, \$4,339.60.

Hampden County. — Blandford, \$9,093.46; Brimfield, \$6,130.00; Chester, \$6,697.45; Granville, \$7,919.76; Hampden, \$3,851.39; Holland, \$3,834.52; Monson, \$10,372.89; Montgomery, \$2,610.57; Southwick, \$5,451.62; Tolland, \$5,492.43; Wales, \$2,691.84; Wilbraham, \$4,665.07.

Hampshire County. — Belchertown, \$12,530.58; Chesterfield, \$6,238.17; Cummington, \$5,316.01; Enfield, \$4,041.25; Goshen, \$3,037.72; Granby, \$5,207.51; Greenwich, \$4,231.11; Hadley, \$6,238.17; Hatfield, \$4,990.54; Huntington, \$4,324.26; Middlefield, \$3,932.53; Pelham, \$4,095.50; Plainfield, \$5,343.13; Prescott, \$3,715.78; Southampton, \$6,075.43; Westhampton, \$6,102.56; Williamsburg, \$4,556.58; Worthington, \$7,940.27.

Middlesex County. — Acton, \$6,292.42; Ashby, \$6,075.43; Ashland, \$4,122.62; Boxborough, \$2,495.27; Burlington, \$3,580.17; Carlisle, \$4,665.07; Dunstable, \$4,014.13; Holliston, \$5,424.50; Hopkinton, \$7,160.34; Lincoln, \$4,339.60; Littleton, \$4,556.58; North Reading, \$3,363.19; Pepperell, \$7,377.31; Sherborn, \$4,665.07; Shirley, \$4,990.54; Stow, \$4,882.05; Sudbury, \$6,726.37; Tewksbury, \$6,075.43; Townsend, \$7,594.30; Tyngsborough, \$4,339.60.

Norfolk County. — Bellingham, \$4,556.57; Medfield, \$4,339.60; Medway, \$6,063.56; Millis, \$4,231.11; Norfolk, \$4,339.60; Plainville, \$3,688.66; Wrentham, \$4,665.07.

Plymouth County. — Carver, \$7,133.13; Halifax, \$3,992.75; Hanson, \$3,732.24; Lakeville, \$5,018.06; Norwell, \$5,792.41; Pembroke, \$4,825.37; Plympton, \$3,275.33; Rochester, \$5,714.37; West Bridgewater, \$4,158.14.

Worcester County. — Ashburnham, \$8,167.44; Barre, \$13,007.04; Berlin, \$4,231.11; Bolton, \$5,749.97; Boylston, \$4,448.09; Brookfield, \$4,185.51; Charlton, \$11,605.08; Dana, \$4,665.07; Douglas, \$7,267.74; East Brookfield, \$2,061.31; Hardwick, \$10,290.18; Harvard, \$6,075.43; Holden, \$8,249.11; Hubbardston, \$8,618.94; Lancaster, \$6,292.42; Leicester, \$6,075.44; Lunenburg, \$7,268.83; Mendon, \$3,905.64; New Braintree, \$5,316.01; North Brookfield, \$7,625.15; Northborough, \$5,099.03; Oakham, \$4,553.93; Oxford, \$7,074.35; Paxton, \$3,247.06; Petersham, \$7,702.78; Phillipston, \$4,751.08; Princeton, \$7,811.28; Royalston, \$7,268.82; Rutland, \$7,377.32; Southborough, \$5,207.52; Spencer, \$9,438.62; Sterling, \$7,573.43; Sturbridge, \$6,459.52; Sutton, \$9,106.80; Templeton, \$6,760.41; Upton, \$4,354.71; Warren, \$6,200.89; West Boylston, \$3,797.15; West Brookfield, \$5,802.64; Westborough, \$5,918.84; Westminster, \$8,353.73.

CONTRACTS FOR THE CONSTRUCTION AND RECONSTRUCTION OF STATE HIGHWAYS IN ANTICIPATION OF APPROPRIATIONS

In Nov., 1931, preparations were made for advertising contracts under the provisions of Section 27, Chapter 29, General Laws, as amended, for work to be done in various localities, preliminary to the making of contracts involving the expenditure by the Commonwealth of not exceeding \$2,370,000 for construction and \$1,300,000 for reconstruction, these amounts being twenty-five per cent of the appropriations of \$9,480,000 and \$5,200,000, respectively, for the fiscal year ending Nov. 30, 1931. The construction appropriation includes the sum of \$7,000,000 under the provisions of Chapter 122 of the Acts of 1931. The making of these contracts as aforesaid was approved by the Governor and Council Nov. 4, 1931.

HIGHWAY IMPROVEMENTS AUTHORIZED BY SPECIAL ACTS

In accordance with the provisions of Chapter 420, Acts of 1930, as amended by Chapter 454, Acts of 1931, the following contracts were entered into: —

Revere. — Dec. 17, 1930, contract made with M. McDonough Co., of Saugus, for constructing a steel and concrete bridge with approaches in the vicinity of the intersection of Broadway and Revere Beach Parkway in Revere, the surface consisting of bituminous macadam. The proposal amounted to \$151,556.35. Work completed Aug. 15, 1931. Expenditure during 1931, \$164,556.25.

Canton-Dedham-Westwood. — July 21, 1931, contract made with the Lee Construction Co., Inc., of Boston, for constructing two bridges over the New York, New Haven & Hartford Railroad Company in Westwood, and about 20,854 feet of State highway in Canton, Dedham and Westwood, the surface except over the bridges consisting of bituminous macadam, and the surface over the bridges consisting of bituminous concrete. The proposal amounted to \$326,097.40. Work about one-third completed. Expenditure during 1931, \$165,532.99.

Dedham-Westwood-Needham. — Oct. 13, 1931, contract made with the John Iafolla Construction Company, of Dedham, for constructing about 18,227 feet of State highway in Dedham, Westwood and Needham, the surface consisting of bituminous macadam. The proposal amounted to \$331,155.20. Work just commenced. Expenditure during 1931, \$18,595.25.

Boston. — Nov. 3, 1931, contract made with John F. Kennedy & Company, of Somerville, for constructing a bridge at Morton Street, and about 11,142 feet of highway on Canterbury Street, new location and Lawn Street, the surface over the bridge consisting of bituminous concrete, the surface of the highway consisting of sections of bituminous macadam and sheet asphalt. The proposal amounted to \$382,199.55. Work just commenced. Expenditure during 1931, \$9,054.28.

Brookline-Boston. — Nov. 24, 1931, contract made with M. McDonough Co., of Saugus, for constructing about 14,330 feet of parkway or boulevard in Brookline and Boston, the surface consisting of sections of bituminous macadam and sheet asphalt. The proposal amounted to \$465,260.65. Work not yet commenced.

DISTRIBUTION OF A CERTAIN PROPORTION OF THE GAS TAX, AS PROVIDED UNDER
CHAPTER 122, SECT. 4, ACTS OF 1931

Distribution as follows:—

Abington, \$2,614.76; Acushnet, \$1,542.71; Adams, \$5,386.41; Agawam, \$3,320.75; Amesbury, \$5,098.79; Amherst, \$4,052.88; Andover, \$7,635.10; Arlington, \$19,741.45; Athol, \$4,523.54; Attleboro, \$10,066.83; Auburn, \$2,274.84; Avon, \$889.02; Ayer, \$1,438.12; Barnstable, \$7,347.48; Belmont, \$12,341.68; Beverly, \$16,708.33; Billerica, \$3,765.26; Blackstone, \$1,228.94; Boston, \$678,452.26; Bourne, \$3,163.86; Braintree, \$8,445.68; Bridgewater, \$2,823.94; Brockton, \$29,991.32; Brookline, \$53,498.03; Cambridge, \$68,846.68; Canton, \$3,582.22; Chatham, \$1,778.04; Chelmsford, \$3,425.34; Chelsea, \$22,774.58; Chicopee, \$20,813.50; Clinton, \$6,458.46; Cohasset, \$3,425.34; Concord, \$3,320.75; Dalton, \$2,562.47; Danvers, \$4,837.31; Dartmouth, \$4,418.95; Dedham, \$8,733.30; Deerfield, \$1,830.33; Dighton, \$1,778.04; Dover, \$1,281.23; Dracut, \$2,065.66; Dudley, \$1,830.33; Duxbury, \$2,222.55; E. Bridgewater, \$2,091.81; E. Longmeadow, \$1,359.68; Easthampton, \$5,595.59; Easton, \$2,431.73; Edgartown, \$1,568.86; Erving, \$1,045.91; Everett, \$25,441.63; Fairhaven, \$4,758.87; Fall River, \$56,374.27; Falmouth, \$6,902.97; Fitchburg, \$22,068.59; Foxborough, \$2,222.55; Framingham, \$12,943.07; Franklin, \$3,582.22; Gardner, \$9,988.39; Gay Head, \$52.30; Gloucester, \$13,649.06; Gosnold, \$418.36; Grafton, \$2,039.51; Great Barrington, \$4,262.06; Greenfield, \$10,615.93; Groton, \$1,647.30; Hamilton, \$1,908.78; Hanover, \$1,333.53; Harwich, \$1,804.19; Haverhill, \$24,395.73; Hingham, \$4,915.75; Holbrook, \$1,464.27; Holyoke, \$42,149.96; Hopedale, \$2,117.96; Hudson, \$3,268.45; Hull, \$5,543.30; Ipswich, \$2,928.53; Kingston, \$1,542.71; Lawrence, \$49,052.93; Lee, \$2,196.40; Lenox, \$2,300.99; Leominster, \$10,328.31; Lexington, \$6,458.46; Longmeadow, \$3,529.93; Lowell, \$48,843.75; Ludlow, \$3,843.70; Lynn, \$50,830.97; Lynnfield, \$1,098.20; Malden, \$25,807.70; Manchester, \$4,262.06; Mansfield, \$3,137.71; Marblehead, \$6,615.35; Marion, \$1,621.15; Marlborough, \$6,929.12; Marshfield, \$2,144.11; Mattapoisett, \$1,281.23; Maynard, \$3,006.98; Medford, \$26,749.01; Melrose, \$12,550.86; Methuen, \$8,576.42; Middleborough, \$3,634.52; Milford, \$5,883.21; Millbury, \$2,353.29; Millville, \$732.13; Milton, \$12,707.74; Montague, \$5,151.08; Nahant, \$1,699.60; Nantucket, \$3,660.67; Natick, \$6,196.99; Needham, \$7,086.00; New Bedford, \$67,591.59; Newburyport, \$5,569.44; Newton, \$51,092.45; North Adams, \$11,374.21; North Andover, \$3,634.52; No. Attleboro, \$4,235.91; Northampton, \$11,583.40; Northbridge, \$4,549.69; Norwood, \$9,962.24; Oak Bluffs, \$1,568.86; Orange, \$2,379.43; Orleans, \$1,255.09; Palmer, \$4,575.83; Peabody, \$9,648.47; Pittsfield, \$24,787.94; Plymouth, \$10,432.90; Provincetown, \$1,699.60; Quincy, \$45,967.51; Randolph, \$2,248.70; Reading, \$5,543.30; Revere, \$14,904.14; Rockland, \$3,556.08; Rockport, \$2,065.66; Russell, \$1,647.30; Salem, \$21,127.28; Salisbury, \$1,307.38; Saugus, \$5,203.38; Scituate, \$4,131.32; Seekonk, \$1,699.60; Sharon, \$2,196.40; Shrewsbury, \$2,902.39; Somerset, \$4,209.77; Somerville, \$45,183.09; South Hadley, \$3,765.26; Southbridge, \$5,700.18; Springfield, \$109,297.05; Stockbridge, \$1,830.33; Stoneham, \$4,706.57; Stoughton, \$3,712.96; Swampscott, \$8,707.16; Taunton, \$16,106.93; Tisbury, \$1,882.63; Uxbridge, \$3,085.42; Wakefield, \$8,445.68; Walpole, \$5,386.41; Waltham, \$20,525.88; Ware, \$3,059.27; Wareham, \$4,392.80; Watertown, \$19,427.68; Wayland, \$1,882.63; Webster, \$5,020.34; Wellesley, \$10,668.23; Wenham, \$1,202.79; W. Springfield, \$10,642.08; Westfield, \$8,811.75; Westford, \$1,778.04; Weston, \$2,954.68; Westport, \$2,300.99; Westwood, \$1,490.41; Weymouth, \$15,008.73; Whitman, \$3,399.19; Williamstown, \$2,614.76; Wilmington, \$1,464.27; Winchendon, \$2,588.61; Winchester, \$10,197.57; Winthrop, \$8,968.63; Woburn, \$8,053.47; Worcester, \$124,044.30. Total, \$2,500,000.00.

ADDITIONAL AMOUNTS PAID FROM GAS TAX IN ACCORDANCE WITH PROVISIONS
OF CHAPTER 122, SECTION 4, ACTS OF 1931

Distribution to towns eligible for aid under the provisions of section 26, chapter 81, Revised Laws, as amended as follows:—

Acton, \$1,450.00; Alford, \$475.00; Ashburnham, \$1,875.00; Ashby, \$1,400.00; Ashfield, \$2,000.00; Ashland, \$950.00; Barre, \$3,000.00; Becket, \$1,450.00; Bedford, \$875.00; Belchertown, \$2,875.00; Bellingham, \$1,050.00; Berkley,

\$1,050.00; Berlin, \$975.00; Bernardston, \$1,000.00; Blandford, \$2,075.00; Bolton, \$1,325.00; Boxborough, \$575.00; Boxford, \$1,300.00; Boylston, \$1,025.00; Brewster, \$1,000.00; Brimfield, \$1,475.00; Brookfield, \$925.00; Buckland, \$1,125.00; Burlington, \$825.00; Carlisle, \$1,075.00; Carver, \$1,675.00; Charlemont, \$1,225.00; Charlton, \$2,875.00; Cheshire, \$1,050.00; Chester, \$1,650.00; Chesterfield, \$1,475.00; Chilmark, \$350.00; Clarksburg, \$350.00; Colrain, \$2,100.00; Conway, \$1,825.00; Cummington, \$1,225.00; Dana, \$1,075.00; Dennis, \$1,950.00; Douglas, \$1,750.00; Dunstable, \$925.00; E. Brookfield, \$475.00; Eastham, \$1,025.00; Egremont, \$800.00; Enfield, \$925.00; Essex, \$525.00; Florida, \$1,075.00; Freetown, \$1,175.00; Georgetown, \$850.00; Gill, \$900.00; Goshen, \$700.00; Granby, \$1,200.00; Granville, \$1,825.00; Greenwich, \$975.00; Groveland, \$725.00; Hadley, \$1,450.00; Halifax, \$825.00; Hampden, \$850.00; Hancock, \$750.00; Hanson, \$900.00; Hardwick, \$2,400.00; Harvard, \$1,400.00; Hatfield, \$1,150.00; Hawley, \$1,225.00; Heath, \$1,325.00; Hinsdale, \$875.00; Holden, \$1,925.00; Holland, \$750.00; Holliston, \$1,250.00; Hopkinton, \$1,650.00; Hubbardston, \$1,875.00; Huntington, \$1,000.00; Lakeville, \$1,125.00; Lancaster, \$1,450.00; Lanesborough, \$1,025.00; Leicester, \$1,400.00; Leverett, \$950.00; Leyden, \$1,000.00; Lincoln, \$1,000.00; Littleton, \$1,050.00; Lunenburg, \$1,675.00; Mashpee, \$675.00; Medfield, \$1,000.00; Medway, \$1,100.00; Mendon, \$900.00; Merrimac, \$775.00; Middlefield, \$950.00; Middleton, \$750.00; Millis, \$975.00; Monroe, \$450.00; Monson, \$2,525.00; Monterey, \$1,300.00; Montgomery, \$675.00; Mt. Washington, \$500.00; New Ashford, \$225.00; New Braintree, \$1,225.00; N. Marlborough, \$2,125.00; New Salem, \$1,600.00; Newbury, \$900.00; Norfolk, \$1,000.00; No. Brookfield, \$1,725.00; No. Reading, \$775.00; Northborough, \$1,175.00; Northfield, \$1,650.00; Norton, \$1,400.00; Norwell, \$1,175.00; Oakham, \$1,125.00; Otis, \$1,200.00; Oxford, \$1,650.00; Paxton, \$725.00; Pelham, \$975.00; Pembroke, \$1,175.00; Pepperell, \$1,700.00; Peru, \$925.00; Petersham, \$1,775.00; Phillipston, \$1,025.00; Plainfield, \$1,225.00; Plainville, \$850.00; Plympton, \$750.00; Prescott, \$975.00; Princeton, \$1,800.00; Raynham, \$1,125.00; Rehoboth, \$2,725.00; Richmond, \$850.00; Rochester, \$1,225.00; Rowe, \$1,025.00; Rowley, \$775.00; Royston, \$1,675.00; Rutland, \$1,700.00; Sandisfield, \$1,975.00; Sandwich, \$1,675.00; Savoy, \$1,400.00; Sheffield, \$1,925.00; Shelburne, \$1,200.00; Sherborn, \$1,075.00; Shirley, \$1,150.00; Shutesbury, \$1,000.00; Southampton, \$1,400.00; Southborough, \$1,200.00; Southwick, \$1,250.00; Spencer, \$2,175.00; Sterling, \$1,800.00; Stow, \$1,125.00; Sturbridge, \$1,650.00; Sudbury, \$1,550.00; Sunderland, \$850.00; Sutton, \$2,100.00; Swansea, \$1,375.00; Templeton, \$1,550.00; Tewksbury, \$1,400.00; Tolland, \$1,025.00; Topsfield, \$950.00; Townsend, \$1,750.00; Truro, \$700.00; Tyngsborough, \$1,000.00; Tyringham, \$625.00; Upton, \$1,500.00; Wales, \$625.00; Warren, \$1,500.00; Warwick, \$1,375.00; Washington, \$1,275.00; Wellfleet, \$875.00; Wendell, \$1,200.00; W. Boylston, \$875.00; W. Bridgewater, \$975.00; W. Brookfield, \$1,325.00; W. Newbury, \$925.00; W. Stockbridge, \$900.00; W. Tisbury, \$325.00; Westborough, \$1,425.00; Westhampton, \$1,250.00; Westminster, \$1,925.00; Whately, \$1,000.00; Wilbraham, \$1,075.00; Willamsburg, \$1,075.00; Windsor, \$1,650.00; Worthington, \$1,825.00; Wrentham, \$1,075.00; Yarmouth, \$1,275.00. Total, \$220,750.00.

PERMITS TO COMMON CARRIERS OF PASSENGERS BY MOTOR VEHICLES

In accordance with sections 48A and 48B, chapter 280, Acts of 1925, which amends chapter 159, General Laws, 72 permits were granted during the year.

No permits were granted after September 6, 1931, when Chapter 409 of the Acts of that year, relieving the Department from jurisdiction in such matters, became effective.

THE REGULATION OF ADVERTISING SIGNS AND DEVICES WITHIN THE PUBLIC VIEW

(Sections 29-33, chapter 93, General Laws, as amended)

In accordance with the provisions of sections 29 to 33, inclusive, chapter 93, General Laws, as amended by chapters 85, 237, 334 and 490, Acts of 1924, providing for the control of billboards and other advertising devices on public ways or on private property within the public view of any highway, public park or reser-

vation, the Department adopted on Jan. 24, 1924, certain new rules and regulations, superseding all former issues; and these have continued in force during the present year.

Applications, Licenses and Permits. — Licenses were granted to 30 individuals and others to engage in the business of advertising in the Commonwealth by the use of outdoor signs.

Of 287 applications received for permits for the erection of advertising signs, 222 permits have been granted; and 66 permits were granted on applications filed previous to 1931. Sixty applications for the erection of new signs were not approved because the locations were in violation of the rules and regulations adopted Jan. 24, 1924; and 17 applications for permits were cancelled.

Of 3,818 renewal applications sent to those whose permits were to expire June 30, 1931, 2,908 were returned to the Department requesting renewal; and 864 requested that permits be cancelled. The number of renewal applications approved, to be in force, until June 30, 1932, was 2,909. The total number of permits in force Nov. 30, 1931, was 3,031.

Receipts and Expenditures. — The total receipts for the year ending Nov. 30, 1931, were \$14,278.20 and the expenditures were \$19,061.97.

The Removal of Signs. — The "Sign Patrol" consisting of small trucks completely equipped for the work, have removed 30,000 signs during the year in addition to 5,000 removed by other agents of the Department, under authority of section 30-A, chapter 93, General Laws, from within the highways and from private property.

Injunction. — On June 19, 1925, a temporary injunction was granted the General Outdoor Advertising Company, Inc., and others, as complainants enjoining and restraining the Commissioners, constituting the Department of Public Works, for the Commonwealth, until the further order of the Court, from proceeding in any way against them for any alleged failure to comply with the Rules and Regulations for the control and restriction of the billboards, signs and other devices, promulgated under date of Jan. 24, 1924. This injunction is still in force and will be until the case is settled in Court.

Hearings. — Hearings were given to officials of Lexington, Winchester, Winthrop, Brookline, Belmont, Cohasset, Norwood.

CONTRACT PRICES DEC. 1, 1930, TO NOV. 30, 1931

TOWN OR CITY	CONTRACTOR	EXCAVATION				Plain Conc. Masonry (Cu. Yd.)	Asphalt (Gals.)	Concrete Surf. (Cu. Yd.)
		Earth (Cu. Yd.)	Borrow (Cu. Yd.)	Ledge (Cu. Yd.)	Trench (Cu. Yd.)			
Abington-Brockton	Corrado & Lepora Const. Co.	\$0 35	-	\$2 75	\$0 75	\$15 00	\$0.07	-
Agawam	Lane Const. Co.	0 25	0 45	2 00	1 25	16 00	09	-
Amesbury, Haverhill, Merrimac	P. J. Holland	0 25	-	4 00	0 80	16 00	0 07	7 50
Amherst	Roy M. Wright	0 33	0 29	0 33	0 75	15 00	0 085	-
Andover-No. Reading & Reading	P. J. Holland	0 35	0 35	1 50	0 80	15 00	0 07	7 00
Arlington	G. Rotundi & Son	0 50	-	3 00	1 00	-	0 10	8 00
Ashburnham	A. Pallatto	0 20	-	10 00	0 60	16 00	-	-
Ashby	A. Pallatto	0 25	0 30	15 00	0 60	16 00	0 10	-
Attleboro	Perini & Ampollini	0 30	-	4 00	1 75	16 00	0 07	-
Auburn & Worc.	Carlo Bianchi	0 25	0 20	1 70	0 75	17 00	0 07½	6 50
Avon	Arute Bros.	0 30	-	2 25	0 60	15 00	0 07	-
Barnstable	Lane Const. Corp.	0 10	-	0 10	1 25	20 00	0 15	-
Barnstable	Lane Const. Corp.	0 10	0 10	0 10	0 50	20 00	0 09	-
Barnstable	Lane Const. Corp.	0 34	0 34	0 34	0 70	21 00	0 11	-
Becket	Bertolini Bros.	0 40	0 45	2 50	1 00	16 00	0 09	-
Belchertown	A. H. Newell Co.	0 30	-	1 75	0 85	18 00	0 08½	-
Bellingham, Mendon	G. Bonazolli	0 40	-	2 50	1 00	18 00	0 08	-
Bernardston	Warner & Goodwin	0 26	0 26	4 00	1 00	20 00	0 09	-
Billerica	R. G. Watkins	0 35	-	2 00	0 90	17 00	0 08	-
Blandford	Eng. S. & C. Co.	0 35	0 35	2 00	0 80	20 00	0 10½	-
Boston	J. F. Kennedy Co.	0 50	0 45	6 00	1 00	10 20	0 05	-
Boston-Brookline	McDonough Co.	0 35	0 40	0 35	0 60	15 00	0 07½	-
Bourne	Atwood-Thomas Co.	0 40	0 35	-	-	-	0 20	-
Bourne & Plymouth	A. D. Bridge's Sons	0 38	0 38	0 38	0 50	18 00	0 18	-
Boxford	A. Susi & Co.	0 35	-	2 00	0 80	15 00	0 12	-
Bridgewater	Powers Bros.	0 30	-	5 00	1 00	15 00	0 07	-
Brockton	Powers Bros.	0 30	-	2 00	0 80	15 00	0 07	-
Brookfield	Frank & Frank C. Co.	0 60	-	0 60	0 90	20 00	0 08½	-
Canton-Dedham, Westwood	Lee Const. Co., Inc.	0 29	0 30	2 00	0 70	15 00	0 06½	-
Canton	J. F. Kennedy Co.	0 40	-	2 00	0 80	15 00	0 07	-
Carlisle	A. Pallatto	0 30	0 35	2 00	0 50	15 00	-	-
Charlton	Perini & Ampollini	0 40	-	2 00	0 80	30 00	0 09	-
Cheshire	Lane Const. Corp.	0 40	-	2 00	1 50	18 00	0 09	-
Chester & Huntingdon	Fitchburg Conc. Const. Co.	0 40	0 40	2 00	1 00	18 00	0 09½	-
Chesterfield & Williamsburg	Warner Bros. & Goodwin	0 50	0 50	2 50	1 00	20 00	0 20	-
Chicopee	D. O'Connell's Sons	0 26	-	2 00	0 90	17 50	0 094	-
Chilmark & W. Tisbury	M. F. Roach & Sons	0 35	0 40	0 35	0 70	20 00	0 23	-
Concord	Greenough C. Co.	1 00	1 00	1 00	1 00	-	0 07	-
Duxbury, Kingston, Pembroke	Eastern Contracting Co., Inc.	0 40	0 25	3 00	0 70	18 00	0 08	-
Concord	Greenough Const. Co.	0 40	-	2 50	1 00	15 00	0 07	-
Danvers	J. J. Watkins	0 40	-	1 75	0 70	-	0 10	-
Dedham & Westwood	J. Iafolla Const. Co.	0 40	-	2 25	0 95	18 00	0 08	-
Dedham Westwood, Needham	J. Iafolla Const. Co.	0 30	0 50	1 50	0 90	18 00	0 09	-
Deerfield & Greenfield	D. O'Connell's Sons	0 50	0 30	4 00	1 00	25 00	0 09	-
Dighton	E. L. Canedy	0 60	0 50	2 00	1 00	12 00	0 08	-
E. Bridgewater	D. J. Roach	0 37	0 37	0 37	1 00	18 00	0 15	-
Easton	Arute Bros., Inc.	0 40	0 40	0 40	1 00	20 00	0 08	-
Egremont	Bertolini Bros.	0 85	-	0 85	0 50	16 00	0 09	-
Erving	Lawton Const. Co.	0 29	0 29	0 29	1 00	15 00	0 08½	-
Erving-Gill	Simpson Bros.	-	-	-	-	-	-	-
Erving-Gill	McClintic Marshall	-	-	-	-	-	-	-
Foxboro	Arute Bros.	0 35	-	3 00	0 80	15 00	0 08	-
Foxboro-Wrentham								
Plainville-N. Attleboro	D. V. Frione	0 36	0 36	2 00	0 50	16 00	0 11	7 00
Foxboro-Wrentham								
Walpole-Sharon	State Const. Co.	0 25	0 30	3 50	0 75	16 00	0 08	6 75
Framingham	B. Perini & Sons	0 40	-	3 00	1 00	17 00	-	7 25
Framingham-Natick								7 50
Framingham-Southborough	B. Perini & Sons	0 27	0 32	2 00	0 75	15 00	0 07½	5 00
Freetown	B. Perini & Sons	0 50	0 40	0 50	1 00	15 00	0 06	7 25
Gardner	A. Thomas Const. Co.	0 35	-	2 00	0 80	-	0 13	-
	Frank & Frank Const. Co.	0 40	0 50	2 50	1 00	18 00	0 10	-

CONTRACT PRICES DEC. 1, 1930, TO NOV. 30, 1931

Broken Stone (con)	Cable Guard Rail (Lin. Ft.)	PIPE CULVERT (lineal feet)								Wooden Guard Rail (Lin. Ft.)	Stone Filling (Cu. Yd.)	Catch Basins (Each)	Reinf. Conc. Ma- sonry (Cu. Yd.)	Gravel Borrow (Cu. Yd.)
		CLAY			REINF. CONCRETE									
		10 in.	12 in.	15 in.	12 in.	15 in.	18 in.	24 in.						
\$2 10 1 20	\$0 45 -	- 0 45	\$0 50 -	\$0 75 -	\$0 80 -	\$1 05 -	\$1 50 -	- -	\$0 40 0 50	- 1 70	\$50 00 50 00	\$18 00 16 00	\$0 55 0 55	
2 00 2 00	0 40 0 50	0 50 0 40	0 55 0 50	0 60 -	0 80 -	- -	3 00 -	- -	- 0 50	- 1 75	50 00 -	20 00 20 00	0 50 0 40	
1 80 2 20	0 40 -	0 60 -	0 60 -	0 80 -	0 80 0 80	1 00 1 20	1 30 -	2 25 -	- -	- 1 75	50 00 45 00	22 00 -	0 45 0 70	
2 25 2 00	0 60 -	- -	- -	- -	- -	- -	- 3 50	- 4 00	- 0 50	- -	- -	- 16 00	- 0 40	
2 60 2 00	0 35 0 50	- 0 35	0 45 -	- -	0 75 -	- -	1 40 -	2 25 -	- -	- -	38 00 55 00	- 17 00	- 0 35	
- 3 75	0 40 0 50	- -	- 0 50	- 0 85	- 1 00	- 1 50	- -	- -	- 0 60	- -	50 00 40 00	22 00 -	- 0 10	
3 75 2 20	0 45 0 40	- -	0 50 0 50	- -	1 10 1 00	- -	2 25 2 00	- 3 00	0 70 1 50	- 1 25	65 00 60 00	24 00 20 00	1 50 0 70	
2 35	-	0 40	0 45	0 75	-	-	-	-	0 50	-	50 00	20 00	0 40	
2 60 2 70	0 45 0 45	- 0 40	- 0 50	- -	1 00 -	1 55 -	1 80 -	2 50 -	- 0 60	1 90 1 50	50 00 -	20 00 16 00	0 65 0 26	
1 95 2 70	0 48 -	0 36 -	- -	- -	- -	- -	1 30 2 15	- -	- 0 45	- 2 10	50 00 -	- 30 00	0 50 0 50	
1 65 1 25	- -	0 30 0 30	0 30 0 40	0 50 0 70	0 50 0 60	1 00 -	1 00 1 40	2 00 2 30	0 50 0 50	- -	30 00 35 00	10 20 20 00	0 50 0 50	
- -	- -	- -	- 0 60	- 0 90	- 1 00	- 1 40	- -	- -	0 50 0 55	- -	- 60 00	18 00 22 00	0 50 0 50	
- 2 40	- 0 44	- -	0 50 -	- -	0 80 -	1 10 -	1 73 2 50	- -	- -	- -	60 00 60 00	22 00 15 00	0 50 0 35	
2 10 3 00	0 50 0 60	- -	0 45 0 60	0 80 -	0 70 -	1 10 -	1 50 -	2 25 -	0 50 -	- 2 00	45 00 45 00	- -	0 35 0 75	
1 95 2 15	0 40 0 50	0 40 0 33	0 45 0 45	0 70 -	0 80 -	1 00 -	1 50 -	2 30 -	0 50 0 60	- -	45 00 45 00	19 00 -	0 42 0 50	
- 3 00	- -	- -	- 0 55	- -	- 1 00	- -	2 25 -	- -	0 45 -	- 1 90	- 60 00	- -	0 35 0 65	
2 70	0 50	-	0 45	-	0 95	-	2 00	-	-	-	50 00	18 00	0 55	
2 35	0 41	-	0 45	-	1 00	-	1 90	3 20	-	-	55 00	22 00	0 50	
3 00 1 77	- 0 50	- 0 40	- 0 50	- 0 75	- -	- -	- -	- -	0 50 -	- -	- 40 00	18 00 -	0 60 0 40	
- 2 00	- -	0 60 0 30	- -	- -	1 25 -	1 50 -	- -	- -	0 60 -	- -	50 00 50 00	20 00 -	- 1 00	
2 50 2 00 1 80	0 45 0 45 0 45	- - 0 40	- 0 50 -	- - -	0 90 1 00 -	1 50 - -	1 75 - -	2 90 - -	0 60 - -	- - -	50 00 50 00 55 00	20 00 - -	0 55 0 40 0 60	
2 00	0 45	0 40	0 45	0 70	0 80	-	1 60	-	-	-	50 00	22 00	0 50	
1 85	0 50	0 35	0 40	-	0 70	0 90	1 30	2 25	0 45	-	50 00	17 00	0 50	
2 00 2 25 -	0 42 0 50 0 43	0 50 0 40 -	0 55 0 50 0 60	- - -	1 00 0 85 1 00	- - 1 50	- 1 50 -	- - -	0 50 0 60 -	- - -	60 00 - 55 00	14 08 25 00 18 00	0 55 0 50 0 37	
2 66 2 40 2 15	0 60 0 40 0 45	0 45 - -	0 50 - 0 50	- - 0 75	0 90 2 00 0 90	1 25 - 1 25	2 00 3 00 1 75	3 00 4 00 2 75	0 60 - -	2 00 1 25 -	- - 60 00	25 00 20 00 17 00	0 40 0 80 0 50	
- 2 35	- -	- 0 45	- -	- -	- 0 90	- -	- -	- -	- 0 50	- -	- 45 00	14 50 19 00 20 00	0 60 - 0 50	
2 75	0 40	0 40	0 45	0 80	0 80	1 25	1 75	2 80	0 50	-	40 00	22 00	0 36	
2 40 -	0 40 -	0 40 -	0 45 -	0 80 -	0 80 -	1 15 -	1 65 -	2 65 -	- -	- -	50 00 50 00	16 75 -	0 40 0 55	
2 15	0 50	0 40	0 45	0 65	0 75	-	1 45	-	0 45	-	45 00	16 90	0 37	
2 50 -	0 45 -	0 50 -	0 50 -	0 85 -	1 00 -	1 40 -	1 80 -	- -	0 45 0 50	- -	55 00 -	22 50 -	0 55 0 55	
2 90	0 45	-	-	-	1 00	-	-	2 75	-	1 90	60 00	20 00	0 65	

CONTRACT PRICES DEC. 1, 1930, TO NOV. 30, 1931 — *Continued*

TOWN OR CITY	CONTRACTOR	EXCAVATION				Plain Conc. Masonry (Cu. Yd.)	Asphalt (Gals.)	Conc. Surf. (Cu. Yd.)
		Earth (Cu. Yd.)	Borrow (Cu. Yd.)	Ledge (Cu. Yd.)	Trench (Cu. Yd.)			
Georgetown	J. E. Watkins	\$0 25	\$0 35	\$1 70	\$0 75	\$17 00	\$0 07½	—
Gill-Greenfield	Kelleher Corp.	0 60	0 30	0 60	1 00	16 00	0 08½	—
Grafton	G. Bonozzoli	0 40	—	2 00	0 90	18 00	0 10	—
Gt. Barrington	A. G. Bianchi Const. Co.	0 30	—	1 00	1 00	20 00	0 09	—
Gt. Barrington	F. T. Ley & Co., Inc.	1 32	0 39	2 00	0 79	10 00	0 14½	\$8 75
Groton & Pepperell	D. & C. Const. Co.	0 30	0 35	0 30	0 50	15 00	0 08	—
Hadley	Lane Const. Corp.	0 35	—	2 00	0 50	18 00	0 08	—
Halifax-Plympton	M. F. Roach & Sons	0 37	0 37	0 37	1 00	20 00	0 15	—
Hamilton	R. G. Watkins & Son	0 30	0 45	2 00	0 90	14 00	0 08	—
Hancock	A. Pallatto	0 65	0 60	3 00	0 50	20 00	0 09	—
Hanson	Arute Bros.	0 35	—	3 00	1 00	18 00	0 08	—
Harwich	Lane Const. Co.	0 20	0 20	0 20	0 75	25 00	0 16	—
Hingham	T. Whalen & Sons	0 40	—	4 00	1 00	14 00	0 07	7 00
Hingham	Bradford Weston	0 30	—	1 00	0 85	18 00	0 07½	—
Hingham-Hull	Waterbury Rd. C. Co.	—	0 65	6 00	1 00	18 00	0 07½	—
Hinsdale	Lee Const. Co.	0 35	0 35	1 50	1 00	17 00	0 09	—
Holbrook	Arute Bros., Inc.	0 30	0 30	3 00	1 00	15 00	—	—
Holliston	Perini & Ampollini	0 50	—	6 00	0 50	16 00	0 06	—
Ipswich	R. G. Watkins & Son	0 30	0 35	—	0 80	16 00	0 09	—
Kingston	Guerini Bros.	0 35	—	5 00	0 80	—	0 08½	—
Lakeville-Middleborough	Arute Bros., Inc.	0 35	0 22	3 00	0 60	15 00	0 07	6 00
Ludlow	Adams & Ruxton Co.	0 40	—	3 00	0 80	20 00	0 08½	—
Lynnfield	State Const. Co.	0 30	—	1 75	0 80	15 00	0 08	—
Lynnfield-Wakefield	J. E. Ballentine & Sons	0 44	—	2 75	—	12 00	0 09	—
Mansfield	Arute Bros., Inc.	0 35	—	5 00	1 00	—	0 08	—
Marblehead	G. Rotundi & Son	0 40	—	2 40	0 90	15 00	0 07	—
Marlborough-Northborough	B. Perini & Sons	0 57	0 57	0 57	1 00	18 00	0 08½	8 00
Medway	Arute Bros., Inc.	0 20	—	2 50	0 60	20 00	0 07	—
Medway	Arute Bros., Inc.	0 20	0 35	0 20	0 60	15 00	0 06½	—
Melrose	Central Const. Co.	0 45	—	3 00	0 90	25 00	—	*
Mendon	E. L. Sabatinelli	0 55	0 40	1 50	0 90	14 00	—	—
Middleborough	Powers Bros.	0 35	0 35	2 00	0 75	16 00	0 07½	—
Milford	John F. Nagle	0 30	—	2 50	0 75	14 00	0 09	—
Millbury-Worcester	A. I. Savin	0 20	0 27	4 00	0 50	12 00	0 07	6 00
Millis	A. M. Cunstance & Co.	0 35	0 35	3 00	0 90	20 00	0 12	—
Millis	Perini & Ampollini	0 25	—	2 00	1 00	—	0 10	—
Milton	A. DeStefano, Inc.	0 35	—	2 50	0 90	16 00	0 07	7 00
Monson & Palmer	P. J. Holland	0 40	—	4 00	0 45	20 00	0 10	8 50
Monterey	J. DeMichael & Son	0 40	—	1 75	1 00	14 00	0 09	—
Nantucket	M. F. Roach	0 50	—	0 50	0 50	20 00	0 23	—
Needham	M. Pandolph Co.	0 31	0 33	2 50	0 79	12 00	0 07½	—
Newbury-Newburyport	Welch & Moynihan	0 30	—	2 00	—	—	0 08½	—
Newbury & Rowley	M. McDonough Co.	0 30	0 40	2 00	0 80	15 00	0 08	—
No. Andover	M. McDonough Co.	0 30	0 40	1 50	1 00	15 00	0 07½	—
Needham & Wellesley	B. Perini & Sons	0 28	0 28	1 35	0 60	15 00	0 07	—
Northborough	Greenough Const. Co.	0 20	—	5 00	1 00	15 00	0 12	—
Northborough-Shrewsbury	Lane Const. Corp.	0 25	0 25	3 50	1 50	18 00	0 09	7 25
Norwood	Smith Const. Co.	0 45	—	3 50	0 40	8 00	0 06	—
Norwood-Sharon-Walpole	Carlo Bianchi & Co., Inc.	0 24	0 24	1 50	0 60	17 00	0 09	5 65
Pelham	Kelleher Corp.	0 45	—	2 50	1 25	18 00	0 08½	—
Pembroke	Eastern Contr. Co.	0 33	—	4 00	0 75	18 00	0 07½	—
Phillipston	Greenough Const. Co.	0 30	—	3 00	1 00	15 00	0 12	—
Plainfield	N. Beacco & Sons	0 55	0 50	1 30	1 50	—	0 16	—
Plainville	Perini & Ampoloni	0 30	—	1 00	2 00	—	—	—
Randolph	Ernest Barolone	0 30	0 30	1 00	0 75	14 00	0 11	—
Randolph	Powers Bros.	0 30	—	2 00	0 80	—	0 07	—
Rehoboth-Seekonk-Swansea	Sherry Const. Co., Inc.	0 30	—	2 00	0 75	12 00	0 08	6 75
Revere	M. McDonough Co.	0 60	0 40	4 00	1 00	15 00	0 08	—
Rochester	S. W. Lawrence	0 35	0 35	0 35	1 00	20 00	—	—
Rockland	Smith Const. Co.	0 35	—	3 50	0 65	10 00	0 07	—
Rowley	M. McDonough Co.	0 30	0 35	2 00	0 80	15 00	0 08	—
Royalston	Ralph E. Bull	0 25	—	4 00	1 00	17 00	0 11	—
Salem & Swampscott	M. McDonough Co.	0 25	0 40	1 50	0 60	15 00	0 07½	—
Salisbury	J. E. Watkins	0 25	0 30	1 00	0 65	18 00	0 08	—
Salisbury	J. E. Watkins	0 25	—	1 00	0 70	18 00	0 07	—
Salisbury	J. E. Watkins	0 30	0 45	2 00	0 85	18 00	0 08	—
Salisbury	W. S. Staples	0 25	—	0 80	0 65	14 00	—	—

CONTRACT PRICES DEC. 1, 1930, TO NOV. 30, 1931—Continued

Broken Stone (ton)	Cable Guard Rail (Lin. Ft.)	PIPE CULVERT (lineal feet)								Wooden Guard Rail (Lin. Ft.)	Stone Filling (Cu. Yd.)	Catch Basins (Each)	Reinf. Conc. Ma- sonry (Cu. Yd.)	Gravel Borrow Cu. Yd.)
		CLAY			REINF. CONCRETE									
		10 in.	12 in.	15 in.	12 in.	15 in.	18 in.	24 in.						
1 85	\$0 43	-	-	-	-	-	-	-	\$0 60	-	\$50 00	\$20 00	\$0 40	
2 10	0 40	\$0 45	\$0 50	\$0 75	\$0 90	\$1 50	\$1 90	\$2 75	0 50	-	55 00	17 00	0 56	
2 55	-	-	1 00	-	-	-	-	-	-	\$1 70	40 00	20 00	0 40	
2 60	-	-	-	-	1 00	-	-	-	-	-	-	25 00	1 00	
3 70	-	-	1 00	-	-	-	-	-	-	-	30 00	15 00	0 50	
2 00	0 45	-	0 40	-	1 00	-	-	-	-	-	50 00	17 00	0 40	
1 90	-	0 50	0 50	0 85	-	-	-	-	0 60	-	55 00	18 00	0 30	
-	0 50	0 45	0 60	-	-	-	-	-	0 55	1 50	50 00	20 00	0 37	
1 85	0 42	-	-	-	0 70	1 05	-	-	0 50	-	50 00	-	0 45	
2 50	0 50	-	0 60	-	0 60	-	1 50	2 50	-	-	-	20 00	0 65	
2 60	-	0 47½	0 50	-	1 00	-	-	3 00	0 50	-	50 00	25 00	0 50	
-	0 50	0 45	0 55	-	1 00	-	-	-	-	-	55 00	-	-	
2 00	-	-	0 40	-	-	-	-	-	0 50	-	40 00	-	0 40	
2 00	0 50	0 40	0 50	-	0 90	-	-	-	0 65	-	60 00	20 00	0 50	
2 00	0 40	-	-	-	0 80	-	1 40	-	-	-	60 00	22 00	0 65	
2 60	0 35	-	-	-	1 00	-	1 80	-	-	1 50	-	20 00	0 55	
-	0 50	-	-	-	-	-	-	-	-	-	-	20 00	0 35	
2 00	-	-	0 35	0 65	-	-	-	-	0 40	-	35 00	-	0 50	
1 90	0 60	0 35	0 35	-	-	-	-	-	0 50	-	32 50	9 00	0 35	
2 75	-	0 50	0 50	-	-	-	-	-	-	-	50 00	-	0 40	
2 00	0 45	-	0 40	0 75	0 75	-	1 25	2 50	-	-	45 00	17 00	0 38	
2 40	-	0 45	-	-	-	-	-	-	0 55	2 00	-	25 00	0 65	
1 50	0 50	0 50	0 55	-	0 90	-	1 25	-	1 00	-	50 00	15 00	0 50	
1 90	-	-	-	-	-	-	-	-	0 75	-	-	14 00	0 55	
2 60	-	0 50	-	-	0 90	1 25	-	-	-	-	50 00	-	0 45	
1 50	0 65	0 35	0 40	0 80	-	-	-	-	0 60	-	43 00	-	0 90	
2 90	0 45	-	0 55	0 85	1 05	1 50	1 90	3 00	0 60	-	55 00	24 50	0 57	
2 20	0 50	0 40	0 60	-	-	-	-	-	0 50	-	40 00	-	0 35	
2 00	-	0 30	-	-	-	-	-	-	0 50	-	40 00	-	0 35	
-	-	-	0 40	-	-	-	-	-	-	-	50 00	-	0 90	
-	0 40	-	-	-	-	-	-	-	-	1 45	-	18 00	0 45	
2 50	0 50	0 40	0 50	-	0 90	-	-	-	0 50	-	45 00	-	0 40	
2 60	-	-	0 50	0 75	0 80	-	1 50	3 00	-	1 00	50 00	20 00	0 45	
2 50	0 40	0 50	0 50	-	0 80	-	1 50	2 25	0 50	-	50 00	12 00	0 30	
-	0 45	0 60	-	-	-	-	-	-	-	-	70 00	18 00	0 40	
2 15	-	0 35	0 40	-	-	-	-	-	0 50	-	50 00	-	0 40	
2 10	-	0 40	-	-	-	1 40	-	-	-	-	50 00	20 00	0 60	
2 60	-	-	1 00	-	-	-	3 00	5 00	0 70	5 00	60 00	25 00	0 50	
2 65	0 42	-	0 80	-	1 20	-	1 50	2 75	-	-	-	16 00	0 65	
-	0 70	-	-	-	1 50	-	-	-	-	-	60 00	-	-	
1 90	0 40	0 40	0 48	-	0 76	-	-	-	0 50	-	45 00	14 00	0 40	
1 90	-	-	-	-	-	-	-	-	-	-	-	-	0 50	
2 00	0 45	0 50	0 50	0 70	1 00	1 20	1 75	3 00	0 50	-	45 00	30 00	0 30	
2 00	0 45	0 50	0 60	0 70	-	-	-	-	-	-	50 00	25 00	0 40	
1 63	0 48	0 35	0 42	0 65	0 70	1 25	1 40	2 35	0 50	-	37 00	16 50	0 28	
-	0 50	-	-	-	-	-	-	-	-	1 40	-	15 00	0 40	
2 50	0 45	-	0 55	-	0 90	-	2 00	3 00	0 50	-	60 00	20 00	0 45	
2 00	-	0 30	0 40	-	-	0 95	-	2 10	0 20	-	33 00	10 00	0 25	
2 50	0 55	0 45	0 50	0 75	0 80	1 00	1 45	2 40	0 60	4 00	50 00	17 00	0 24	
1 95	0 60	-	-	-	-	-	-	-	0 50	1 50	-	22 00	0 50	
2 50	0 45	0 45	0 45	-	0 90	-	-	-	-	-	48 00	20 00	0 48	
-	-	-	-	-	-	-	-	-	-	1 30	-	15 00	0 30	
-	-	-	-	-	-	-	-	-	0 45	1 75	55 00	-	0 68	
-	0 40	0 40	-	-	-	-	-	-	-	-	-	-	0 35	
-	0 60	0 35	0 45	-	-	-	-	-	0 50	-	35 00	15 00	0 35	
2 00	-	0 40	0 50	0 80	-	1 10	-	2 25	0 50	-	45 00	-	0 40	
2 35	0 45	0 40	0 45	0 80	0 90	1 25	-	-	0 50	-	50 00	16 00	0 45	
2 00	-	0 45	0 60	-	0 75	1 25	1 60	3 25	-	-	60 00	30 00	1 00	
-	0 50	0 50	0 50	-	-	-	-	3 00	-	-	50 00	25 00	0 50	
2 00	-	0 35	0 40	-	-	-	-	-	-	-	35 00	-	0 30	
1 75	-	0 40	0 50	0 75	-	-	-	-	0 50	-	45 00	30 00	0 30	
-	0 55	-	-	-	-	-	-	-	-	1 60	-	20 00	0 50	
1 25	0 60	0 40	0 40	0 60	0 70	2 00	1 50	2 00	0 50	-	35 00	15 00	0 50	
2 00	0 45	0 35	0 40	0 60	0 75	1 50	-	-	0 50	-	40 00	18 00	0 40	
1 95	-	0 40	0 40	-	-	-	-	-	-	-	40 00	18 00	0 35	
2 20	0 45	-	-	-	-	-	-	-	-	-	-	-	0 50	
2 00	-	0 33	0 35	-	-	-	-	-	-	-	37 00	-	0 50	

CONTRACT PRICES DEC. 1, 1930, TO NOV. 30, 1931 — *Concluded*

TOWN OR CITY	CONTRACTOR	EXCAVATION				Plain Conc. Masonry (Cu. Yd.)	Asphalt (Gals.)	Concrete Surf. (Cu. Yd.)
		Earth (Cu. Yd.)	Borrow (Cu. Yd.)	Ledge (Cu. Yd.)	Trench (Cu. Yd.)			
Saugus	Mogovero-Merrill Co.	\$0 40	\$0 40	\$1 50	\$0 75	\$12 00	\$0 07	-
Savoy	H. W. Flaherty	0 70	0 70	0 70	1 30	18 00	0 18	-
Seekonk	T. J. Quinn	0 35	-	2 00	1 20	15 00	0 06	-
Sharon	Dingley & Lloy	0 38	-	2 30	1 00	16 00	0 07½	-
Sheffield	N. H. Rd. Const. Co.	0 40	0 55	1 90	1 00	20 00	0 09½	\$8 65
Sherborn	Perini & Ampollini	0 30	-	4 60	0 40	16 00	0 06	-
Shirley	Geo. H. Pierce	0 30	0 20	7 00	1 00	15 00	-	-
Shrewsbury-Worcester	E. D. Ward Co.	0 25	0 20	6 00	1 00	16 00	0 08½	5 85
Somerset & Swansea	Sharry Const. Co.	0 30	-	4 00	0 90	12 00	0 09	7 00
Southbridge & Sturbridge	New Haven Road Const. Co.	0 40	0 40	1 70	0 45	19 00	0 09	-
So. Hadley	Warner & Goodwin	0 40	0 30	4 00	1 00	20 00	0 09	-
Spencer	Jas. Chesarone	0 43	-	2 00	1 00	16 00	-	-
Sterling	Perini & Ampollini	0 35	0 35	2 00	1 00	18 00	0 11	-
Stockbridge	Lane Const. Corp.	0 35	0 20	0 35	1 25	19 00	0 08	-
Sunderland	Kelleher Corp.	0 30	0 30	2 00	1 25	18 00	0 08	-
Sutton	Roger T. Fay	0 60	0 25	1 50	1 00	20 00	0 09	-
Topsfield	S. Triconi	0 30	0 40	1 25	0 75	15 00	0 08	-
Topsfield	H. N. Conant	1 00	0 70	10 00	0 70	-	0 15	-
Townsend	P. J. Keating Co.	1 50	0 35	8 00	2 00	-	0 11	-
Townsend	P. J. Keating Co.	1 50	0 54	8 00	-	-	0 11	-
Uxbridge	Lane Const. Corp.	0 20	0 10	5 00	1 00	14 00	0 08	6 00
Uxbridge	W'bury Rd. Const. Co.	0 30	0 30	5 00	1 00	-	0 09	-
Wareham	J. Iafolla Const. Co.	0 35	0 50	3 00	0 45	20 00	0 09½	-
Wayland	W. & L. Eng. Co.	0 50	-	0 50	0 70	16 00	0 07½	-
Wenham	Welch & Moynihan	0 30	-	2 00	0 90	18 00	0 07½	-
Westborough	Carlo Bianchi & Co.	0 32	0 32	2 50	1 00	18 00	0 08	-
Westborough	Carlo Bianchi & Co.	0 30	0 35	2 50	1 00	18 00	0 08	-
W. Bridgewater	Otis R. Mann	0 45	-	3 00	1 00	18 00	0 12	-
W. Newbury	J. J. Watkins	0 30	0 45	2 00	0 80	15 00	-	-
Weston	P. Salvucci	0 35	0 35	2 25	0 80	15 00	0 08	-
W. Stockbridge	Sermini & Giracea	0 40	0 50	2 00	-	-	0 09	-
Wilbraham	Lane Const. Corp.	0 45	-	0 45	1 25	20 00	0 10	9 00
Williamstown	Ralph E. Bull	0 33	-	4 00	0 90	15 00	0 08	-

* Conc. Surf. in Melrose: Cement Concrete Surface for top course \$8.30
(Cu. Yd.) High early strength cement concrete for top course . . . 9.55
Cement concrete surface for bottom course 6.40
High early strength cement concrete for bottom course 7.30

CONTRACT PRICES DEC. 1, 1930, TO NOV, 30, 1931 — *Concluded*

Broken Stone (ton)	Cable Guard Rail (Lin. Ft.)	PIPE CULVERT (lineal feet)							Wooden Guard Rail (Lin. Ft.)	Stone Filling (Cu. Yd.)	Catch Basins (Each)	Reinf. Conc. Ma- sonry (Cu. Yd.)	Gravel Borrow (Cu. Yd.)
		CLAY			REINF. CONCRETE								
		10 in.	12 in.	15 in.	12 in.	15 in.	18 in.	24 in.					
\$1 30	\$0 56	\$0 35	0 40	-	-	-	-	\$0 70	-	\$45 00	-	\$0 45	
-	0 45	-	-	-	-	-	\$1 90	\$3 25	\$1 70	-	\$25 00	0 80	
1 65	-	0 40	0 45	-	-	-	-	0 55	-	45 00	20 00	0 40	
2 33	0 45	0 40	-	-	\$0 85	-	1 50	-	0 50	48 00	20 00	0 48	
2 65	0 50	-	0 65	-	1 00	-	2 00	3 25	0 55	75 00	30 00	0 55	
2 00	0 45	0 35	0 40	-	-	-	-	-	-	35 00	-	0 40	
-	0 55	-	0 50	-	-	-	-	-	0 55	50 00	15 00	0 25	
2 65	0 45	0 40	0 45	-	0 75	-	1 50	2 50	-	45 00	13 50	0 30	
2 25	0 40	0 40	0 50	\$0 80	0 90	1 50	1 85	3 00	0 50	50 00	15 00	0 50	
3 00	-	-	0 50	-	0 90	-	1 50	2 75	-	70 00	25 00	0 65	
2 00	0 45	-	-	-	-	2 00	-	8 00	0 50	2 00	25 00	0 50	
-	0 65	-	-	-	1 00	-	1 80	-	-	-	20 00	0 48	
-	0 45	-	-	-	1 00	-	1 75	2 75	-	1 80	22 00	0 65	
2 50	0 40	-	0 50	-	-	-	-	-	-	60 00	19 00	0 45	
2 00	0 55	-	-	-	-	-	-	-	-	2 00	20 00	0 50	
2 25	0 70	-	0 45	-	-	-	-	-	1 35	60 00	25 00	0 40	
1 80	0 55	-	0 50	1 00	1 00	-	-	-	0 50	50 00	20 00	0 50	
-	-	-	-	-	-	-	-	-	-	60 00	15 00	1 00	
-	0 60	-	-	-	-	-	-	-	0 50	-	18 00	0 50	
-	-	-	-	-	-	-	-	-	0 50	-	20 00	0 50	
2 70	0 45	-	0 50	-	0 85	-	1 85	2 75	-	-	55 00	16 00	0 25
2 70	0 50	-	-	-	-	-	-	-	-	-	-	16 00	0 40
2 70	-	-	0 45	0 75	0 90	-	-	2 25	0 60	-	48 00	20 00	0 65
2 00	0 50	-	0 50	0 70	0 90	1 00	-	-	-	-	50 00	20 00	0 42
1 75	-	0 40	0 50	-	0 70	-	-	-	-	-	50 00	18 00	0 50
2 75	0 45	-	-	-	0 90	-	1 50	2 50	-	1 75	-	25 00	0 55
2 80	0 50	-	0 55	-	0 90	-	1 50	2 50	-	-	-	25 00	0 55
1 75	-	-	-	-	1 00	-	-	-	0 60	-	-	25 00	0 60
-	0 45	-	-	-	0 85	-	2 00	-	0 60	-	-	-	0 50
2 20	0 50	0 40	0 50	1 00	0 80	1 25	-	4 00	0 50	-	50 00	-	0 50
2 60	0 60	-	-	-	-	-	-	-	-	2 00	-	15 50	1 00
2 50	0 50	0 50	0 70	-	-	-	-	3 50	0 50	-	60 00	24 00	0 60
2 30	0 55	-	0 45	-	0 95	-	1 70	-	-	2 00	52 00	15 00	0 55

REGISTRY OF MOTOR VEHICLES

The 1931 statistics do not indicate an increase in the number of registration applications handled, except in the case of the commercial vehicles. The other classes of applications handled indicate some decrease, although the volume of work handled by the Registry throughout the year was not affected by the numerical decrease in the count of applications received, as the use made of the Registrar's records and files by letter, personal calls at the counters, and of the telephone information lines, was constantly on the increase.

There has been a noticeable decrease in the number of court abstracts received, which directly affects the revenue received from fines. The number of abstracts received in 1931 was 2,300 less than the previous year, which year, in turn, was about 5,000 less than the peak year of 1929. It is fair to assume that the decrease in court abstracts received indicates an increase in the number of persons who are complying with the motor vehicle laws, rather than any less activity in the matter of law enforcement.

The Registrar of Motor Vehicles in continuing his activities for greater safety on the highways has had the co-operation of the various safety committees, police and other officials and organizations of the Commonwealth.

In this connection, the Department was directed and authorized to make a study of the problem of reducing loss and damage, injury and death resulting from the use and operation of motor vehicles, and for this purpose there was appropriated a sum not exceeding \$20,000. In conducting this study, Dr. Charles S. Slocombe was appointed as Expert Assistant to the Registrar, and this work was started at the Registry on June 1. The investigation is now well under way.

A few of the outstanding figures of the work of the Registry during the year, together with a comparison with the previous year, follow: —

	1930	1931
Motor Vehicle certificates of registration issued	1,013,118	1,009,876
Licenses to operate issued	982,795	1,024,304
Examinations of applicants for licenses	123,001	112,763
Licenses and registrations revoked and suspended	52,954	58,306
Licenses revoked for driving under influence of liquor	5,052	5,535
Total number of applications handled	2,104,342	2,115,193
Gross receipts from fees	\$6,462,618 51	\$6,430,015 98

REGISTRATIONS OF PASSENGER CARS, COMMERCIAL VEHICLES AND MOTOR CYCLES

The following registration figures show a .37% decrease in passenger registrations, with a very slight increase in commercial registrations, the motor cycle registrations continuing to decrease as they have for several years past.

	1905	1910	1915	1920	1925	1930	1931
Passenger cars	4,889	31,360	90,580	251,570	663,858	893,558	890,228
Commercial vehicles	—	—	12,053	52,968	100,480	114,918	116,580
Motor cycles	553	3,358	9,520	15,142	10,333	4,642	3,068
Totals	5,442	34,718	112,153	319,680	774,671	1,013,118	1,009,876

EXAMINATIONS FOR LICENSES

The appointment system of examining operators adopted in 1930, having proved satisfactory, was continued throughout 1931. The examination has continued to include not only an actual demonstration on the highways but a reading test, an eye test and a thorough test of the applicant as to his knowledge of the motor vehicle law.

In this connection, the so-called "Questions and Answers" book was carefully revised and edited in such a way that it is believed that operators could learn the information required more readily by having related items and questions grouped, and the examiner, in asking questions, asks at least one question from each group instead of asking questions at random as was the custom under the old system when questions asked might be of minor importance, at least so far as giving any

indication of the operator's general knowledge of the motor vehicle law requirements and operating information was concerned.

The number of persons examined decreased and also the number of persons who failed decreased, both of which items plainly indicate that the requirements of the new examination are such that more and more the public are not presenting themselves as applicants for licenses until they have the required qualifications. Examinations for licenses were held at 55 points in the State with the results as tabulated below:—

	1930	1931
Operators passed	88,592	87,950
Operators unfit	19,307	15,519
Restriction removal, passed	12,166	8,306
Restriction removal, unfit	1,601	934
"Competency" passed	1,241	699
"Competency" unfit	94	58
Total examinations	123,001	113,466

BRANCH OFFICES

The branch offices of the Registry of Motor Vehicles are able to render practically the same service to the public that is rendered at the main office at Boston, except as to information from the records, none of which are kept at the branches. Each branch office serves as a headquarters for the district in which it is located, both as to distribution of number plates and licenses, and law enforcement.

The following table gives approximate figures showing the distribution of applications received at the branch offices and at the central office at Commonwealth Pier, Boston:—

APPROXIMATE DISTRIBUTION OF REGISTRATIONS, LICENSES, ETC.

	Regis- trations	First Licenses	License Renewals	Miscel- laneous	Total
Boston:					
Counter	218,000	—	131,000	90,000	439,000
Mail	170,000	—	484,000	10,000	664,000
Examination	—	32,000	—	7,500	39,500
Pittsfield	24,000	3,300	17,000	7,100	51,400
Springfield	77,000	9,800	49,000	21,000	156,800
Greenfield	15,000	1,700	8,200	7,400	32,300
Worcester	57,000	7,300	41,000	19,000	124,300
Fitchburg	17,000	1,300	11,000	5,400	34,700
Framingham	11,000	300	2,100	1,400	14,800
Lawrence	34,000	4,600	26,000	11,000	75,600
Lowell	27,000	3,400	20,000	8,000	58,400
Fall River	22,000	4,400	20,000	7,500	53,900
New Bedford	22,000	3,100	21,000	7,700	53,800
Lynn	63,000	8,700	42,000	20,000	133,700
Quincy	32,000	6,900	26,000	14,000	78,900
Brockton	41,000	3,500	28,000	14,000	86,500
Hyannis	10,000	2,100	5,200	3,500	20,800
Nantucket ¹	700	—	—	—	700
Oak Bluffs ¹	2,300	—	—	—	2,300
Totals	843,000 ³	92,400	931,500	254,500 ²	2,121,400

A new branch office was opened in Framingham on August 19, 1931, this office being classified as a sub-office in the Boston district. Plans for a new sub-office in Northampton, coming within the jurisdiction of the Springfield office, were not completed in time for the opening of this new office until after the close of the fiscal year.

¹ Licenses and miscellaneous applications included in counter figures.

² This figure includes approximately 167,000 number plate reissues.

³ Does not include reissues (see Miscellaneous).

COMPULSORY MOTOR VEHICLE LIABILITY INSURANCE

The following figures give an approximate idea of the volume of papers received and notices mailed in connection with the carrying out of the law regarding compulsory motor vehicle liability insurance.

Notices of Cancellation of Insurance Policies Received and Intents to Revoke Mailed

	1930	1931
(a) For non-payment of premiums	70,855	85,298
(b) For other reasons	14,635	20,918
Total	85,490	106,216
Revocations	28,959	35,105
Sets of number plates returned	94,290	93,279

It is interesting to note that the receipt of 106,216 notices of cancellation from insurance companies required the mailing of the same number of notices of intent to revoke; that 19,323 of these cases were adjusted by the filing of certificates by a new company; 47,627 cancellations were adjusted by the filing of reinstatement notices from the same company; 4,161 by the surrender of registration plates prior to the effective date of cancellation; and 35,105 by the revocation of the plates and certificates. In connection with the surrender of the number plates it was necessary to send notices of the return of 93,279 plates to the various insurance companies covering the registrations involved.

Particular attention should be directed to the fact that of the 35,105 revocations only about 11,000 persons returned their plates and certificates promptly upon receiving notice from this office. The return of approximately 14,000 sets of plates and certificates were secured through the efforts of the police departments and the examiners and inspectors of the Registry, leaving approximately 10,000 sets of plates not returned, although the registrations involved had been revoked and the insurance cancelled. Practically all of these revocations were due to non-payment of premium cancellation notices.

AIRCRAFT

The statistics of the Aviation Section show a decrease in the number of persons killed in airplane accidents and also the number of persons injured, although peculiarly enough the number of fatal airplane accidents increased slightly. The statistics of this section for the fiscal year also show a great increase in the number of pilots holding permits issued by the Department and also a very great increase in the number of airplanes registered and for which permits have been issued.

The work of the Engineering Section has been mainly in connection with re-checking airports for improvements made and this section has also been engaged in a detailed study of the various landing fields throughout the State, so that another step leading towards greater safety in aviation has been taken.

A marked increase in the number of investigations has been made by this section and also the personnel has been able to check a very much larger number of airplanes for permits and for repairs, as well as a general periodic check-up throughout the year.

The same co-operation has been extended to various organizations throughout the United States, as well as to certain foreign governments, as has been extended in previous years and there has been an increase in both the number and field of inquiries.

The following statistics, which give a summary of the work, indicate a strict enforcement of the law, which tends for greater safety, both to the public at large and in particular to the flying personnel and the persons who use aircraft.

In general, an increase in activity is shown by the statistics below: —

	1930	1931
Pilots' licenses issued	39	31
Airplanes registered	43	49
Pilots' license fees received, including examination fees	\$335	\$248
Airplane registration fees received	\$645	\$687

	1930	1931
Duplicates issued	0	6
Certified copies issued	0	1
Duplicate fees received	0	\$6
Fees received for certified copies	0	\$1
Pilots examined for licenses and amendments	45	22
Aircraft examined for registrations, permits and repairs	361	436
Pilots' permits issued	338	358
Aircraft permits issued	231	298
Suspensions of licenses, registrations and rights to fly	53	37
Court prosecutions for violations of aircraft laws	5	6
Surveys of bodies of water for seaplane bases	1	0
Surveys of fields for airports	26	10
Re-check surveys of fields for airports	10	24
Buildings surveyed for air marking	15	0
Flying fields approved	14	0
Flying fields disapproved	14	0
Investigations made by aircraft inspectors	650	763
Rulings made by Registrar	3	0
Airplane accidents: —		
Crack-ups	50	69
Non-fatals	17	12
Fatals	1	3
Unknown	1	0
Persons injured	39	31
Persons killed	5	4
Planes damaged	53	67
Planes washed out	20	18
Caused by motor failure	11	18
Structural failure	7	8
Improper operation and other reasons	54	58
Ground accidents: —		
Crack-ups	20	15
Non-fatals	3	3
Fatals	0	1
Persons injured	3	3
Persons killed	0	1
Planes damaged	23	21
Planes washed out	2	0

INSPECTION OF MOTOR VEHICLE EQUIPMENT

Under authority of regulations of the Registrar, which became effective during the previous year, a second periodic inspection was made of the equipment of all motor vehicles registered in the Commonwealth. An inspection was required, in each case, within fifteen days after the date of registration. The results were very satisfactory and effected a general improvement of equipment, especially brakes. Very few complaints were received from motorists and it was apparent that the work was performed honestly and, for the most part, efficiently.

As was expected, however, the results proved that one inspection per year, although helpful, cannot be expected to secure the desired results. In drawing up the regulations, however, it was felt that it would be wiser to start with fewer inspections than were actually desirable in order to permit a proper organization of official inspection stations, and to supply experience which could be used to advantage in deciding upon a future policy. It is hoped, if business and other conditions warrant, to hold two inspections during the year 1932.

During the year, a total of 870,000 cars were inspected. Adjustments or repairs were found necessary in about 49% of the cases reported. This figure showed a considerable improvement over the conditions which existed at the time of the first periodic inspection in 1930, when 70% of the vehicles inspected were found in need of repair.

Analysis of the results of the Second Equipment Inspection Period may be summarized as follows: —

Total number of cars inspected	870,000
Total O. K. without repair or adjustment	443,000—51%
Total requiring replacement or adjustment	427,000—49%

Repairs or adjustments on the 427,000 vehicles requiring correction of defects in equipment were as follows: —

Lights only	243,000
Brakes and lights	104,000
Brakes only	69,500

Horn, mirror, muffler and other minor items of inspection required adjustment or repair on 19,500 vehicles.

Brakes, Lights and Overloads

Fifteen men were regularly assigned to equipment work. Besides their duties in connection with the approval of the official inspection stations and adjusters, these men did considerable road work in tagging or reporting overloaded commercial vehicles and vehicles operated with defective brakes, lights, or other equipment. There were 4,338 motor vehicles tagged for defective brakes, 23,958 for defective lights, and 1,361 cases reported to the Registrar for immediate action because of the dangerous condition of equipment. In addition, equipment inspectors reported 3,966 cases of improper operation of motor vehicles for warning or action by the Registrar, and examined 246 applicants for licenses. More than 360 cases of overloading of commercial vehicles to an extent that rendered their operation dangerous to the public or destructive to road surfaces were reported to the Registrar for appropriate action.

Headlamps and Rear Lamps

The Registrar approved no new automobile headlamps or devices during 1931. Extensions of approval of certificates already in force were made in the cases of five approved headlamps. Approvals were granted to one new motorcycle headlamp and eight motor vehicle tail lamps. All of these were of the type in which the tail light was combined with stop signals.

MOTOR VEHICLE DEATHS, INJURIES, COLLISIONS

Deaths caused by motor vehicles in 1931 numbered 793, a decrease of two or 0.2 per cent as compared with the record of the previous year. The record of classified fatalities, injuries and collisions in the years 1930 and 1931 is as follows: —

Motor Vehicle Accidents to Persons

	Persons Killed		Persons Injured	
	1930	1931	1930	1931
Pedestrians by autos	438	434	15,413	15,499
Pedestrians by motor cycles	3	3	32	27
Pedestrians near street cars	4	9	32	59
Occupants of autos	281	281	26,688	31,142
Occupants of autos at railroad crossings	22	22	31	38
Occupants of motor cycles	16	14	589	458
Bicycle riders	13	20	812	822
Occupants horse-drawn vehicles	9	2	257	279
Coasters (on sleds)	7	7	333	434
Coasters (on wheels)	2	1	92	79
Totals	795	793	44,279	48,837
	Children Killed		Children Injured	
	1930	1931	1930	1931
Boys	116	138	7,163	7,886
Girls	45	61	3,689	4,159
Totals	161	199	10,852	12,045

Number of Collisions

	1930	1931
Collision with pedestrian	14,619	15,169
Collision with automobile	17,145	19,629
Collision with horse-drawn vehicle	282	287
Collision with railroad train	25	31
Collision with street car	327	360
Collision with fixed object	1,624	1,846
Collision with bicycle	801	809
Non-collision accident (car overturned)	525	746
Collision with motor cycle	542	502
Collision with sled	319	383
Collision with animal	92	85
Totals	36,301	39,847
In the daytime	22,447	25,018
After dark	13,854	14,829
Totals	36,301	39,847

ACCIDENT REPORT LETTERS

As provided by Section 26, Chapter 90, General Laws, every operator of a motor vehicle in any manner involved in an accident in which any person is killed or injured is required to report in writing to the Registrar. The number of these accident reports received in 1931 was 44,994 as compared with 38,374 received in 1930. Under the requirements of Section 29, Chapter 90, General Laws, 19,824 similar reports of accidents were received from Police Departments throughout the State in 1931 as against 16,970 received in 1930.

COMPARATIVE STATEMENT OF YEARLY REGISTRATIONS, LICENSES, DEATHS, INJURIES, REVOCATIONS AND SUSPENSIONS

Year	Automobiles Registered	Motor Cycles Registered	Total Registrations	Number of Persons Killed	Number of Persons Injured	Licenses Issued	Total Suspensions and Revocations	For Operating Under Influence of Liquor
1910	31,360	3,358	34,718	77	963	41,259	283	22
1911	38,907	3,658	42,565	110	1,248	51,950	360	14
1912	50,132	5,034	55,166	142	1,962	66,645	546	56
1913	62,660	7,127	69,787	188	2,923	81,034	608	87
1914	77,246	8,161	85,407	229	4,010	99,532	858	131
1915	102,633	9,520	112,153	294	6,197	133,935	1,153	202
1916	136,809	10,714	147,522	315	9,131	171,596	1,396	320
1917	174,274	11,065	185,339	438	7,282	214,229	1,831	485
1918	193,497	12,862	206,359	499	8,598	235,140	2,343	553
1919	247,183	13,698	260,881	582	16,287	297,968	2,156	554
1920	304,538	15,142	319,680	481	21,182	261,539	2,944	888
1921	360,731	12,058	372,790	544	11,487	380,519	4,899	1,508
1922	449,838	11,675	461,513	522	15,277	444,173	8,369	2,460
1923	566,150	11,733	577,883	578	16,217	536,819	11,613	3,333
1924	672,315	10,778	683,093	709	19,579	620,439	14,154	4,395
1925	764,338	10,333	774,671	755	25,736	698,378	16,249	4,654
1926	826,224	9,215	835,439	705	25,351	763,951	18,705	4,863
1927	819,703	7,245	826,948	693	31,721	814,094	31,252	4,983
1928	883,595	6,656	890,251	715	42,201	870,160	40,814	5,071
1929	1,016,916	6,168	1,023,084	777	46,111	944,338	53,133	5,381
1930	1,008,476	4,642	1,013,118	795	44,279	982,795	52,954	5,052
1931	1,006,808	3,068	1,009,876	793	48,837	1,024,304	63,841	5,535

INVESTIGATIONS AND PROSECUTION BY INSPECTORS

Investigations were made under the direction of the Chief Inspector relative to fatal and non-fatal accidents, headlight violations, inspection of garages, miscellaneous complaints and the prosecution of motorists in court. The work of the inspectors is indicated by the following tabulation on the classification of reports:

Classification of Reports

	1930	1931
Accidents, fatal	761	746
Accidents, non-fatal	4,916	5,853
General reputation	3,893	4,437
Miscellaneous	7,037	7,879
Totals	16,607	18,915

	1930	1931
Complaints filed	6,426	21,206
Garages inspected	6,010	5,911
Headlight and other violations reported	37,294	50,269
Prosecutions conducted	594	831
Amount of fines	\$28,334	\$35,815

REVOCATIONS AND SUSPENSIONS

	1930	1931
Licenses suspended	11,633	17,018
Licenses revoked	3,740	3,880
Rights suspended	4,014	5,236
Certificates suspended	9	8
Certificates revoked	31,471	35,577
Certificates and licenses suspended	55	21
Certificates and licenses revoked	1,841	1,882
Certificates revoked and rights suspended	148	173
Rights in Massachusetts suspended	43	46
Totals	52,954	63,841
Resulting from investigations	12,429	19,466
Resulting from Court convictions	9,096	9,277
Resulting from Police complaints	1,856	1,627
Resulting from Judges' complaints	33	35
Resulting from State Police complaints	676	229
Resulting from Insurance cancellations	28,864	33,207
Totals	52,954	63,841

Character of Offenses

	1930	1931
Reckless and endangering	2,034	2,084
Liquor convictions	4,302	4,613
Going away after accidents	425	384
Without authority	734	822
Racing	2	0
Improper person	5,357	5,967
Improper person, liquor	750	922
Improper operation	7,661	13,548
Two overspeeds	362	172
Three overspeeds	24	12
Insurance cancellations	28,864	33,207
Insurance convictions	351	351
Improper equipment, miscellaneous	412	307
Improper equipment, brakes	187	400
Improper equipment, lights	637	191
Fatal accidents	772	780
Other offenses	80	81
Totals	52,954	63,841
Formal hearings	5,789	7,325

Court recommendations adopted: —

	1930	1931
Liquor	0	0
Reckless and endangering	79	53
Going away after accidents	14	17
Without authority	0	1
Totals	93	71
Persons whose licenses were suspended or revoked and who had to pass examination in order to have them returned	4,215	4,113

ANALYSIS OF COURT ABSTRACTS RECEIVED

	1930	1931
Number of courts forwarding abstracts	95	95
Total abstracts received	57,851	57,937
Number of abstracts recording convictions	41,165	38,869

Offenses

(Analysis of convictions, not including appeals)

Overspeeding	14,283	12,890
Reckless	21	26
Operating under the influence of liquor	3,115	3,934
Using auto without authority	821	1,068
Endangering lives	1,885	2,220
Not stopping after causing injury	556	662
Without license	2,878	2,895
Without registration certificate	1,024	902
Unregistered vehicle	250	262
Improper display or no register number	176	132
Refusing to stop on signal	453	245
Unlighted lamps	688	820
Not signalling	2	0
Operating within 8 ft. of street car	202	249
Violation of Metropolitan Park rules	1,096	710
Operating after suspension or revocation of license	372	456
Larceny	145	139
Miscellaneous	3,057	2,328
No reflector	7	—
Racing	2	—
Operating after registration certificate revoked	11	8
No rear light	89	32
Not displaying lights	127	50
Improper lights	583	534
Brakes not as required by law	399	252
Violation of Insurance Law	262	316
Not slowing down approaching pedestrian	39	41
Not slowing down at intersecting way	7,242	5,942
Violation of law of road	1,344	1,723
Perjury — making false statements on license application, falsely impersonating or conspiring to obtain a license	9	21
Loaning a license to another	3	3
Allowing intoxicated person to operate	5	2
Attempted larceny	19	7
Totals	41,165	38,869

USED CAR SECTION

(Motor Vehicle Identification)

The Used Car Section indexes cars reported stolen, lists the sales of used cars, investigates the history of cars sold bearing obliterated, defaced or changed engine and makers' numbers, and advises the owners of cars registered under incorrect engine and makers' numbers how to find and report the correct numbers on the cars.

The work of this section is summarized in the following tables: —

Dealers

	1930	1931
Total number of first class dealers reporting	1,327	1,255
Total number of second and third class dealers reporting	460	501
Total number making reports to this office	1,787	1,756

Reports

Approximate number of individual reports received daily .	300	230
Approximate number of dealers' reports received daily .	1,000	1,085

Motor Vehicles Stolen

Number stolen in Boston	4,879	5,336
Number stolen in Massachusetts (including Boston	8,389	10,720
Number reported stolen from various sources throughout the country, including Massachusetts	25,300	27,486
Number recovered through information furnished by this office	344	355

Engine and Serial Numbers

Engine numbers assigned to cars	24	29
Certificates issued authorizing the replacement of engine numbers	847	701
Certificates issued authorizing the replacement of serial numbers	1,552	1,135
Certificates issued authorizing the replacement of both engine and serial numbers	10	18
Total number of authorized certificates issued	2,409	1,854

EASTERN CONFERENCE OF MOTOR VEHICLE ADMINISTRATORS

Representatives of the department attended meetings of the Eastern Conference of Motor Vehicle Administrators held in New York City on October 22nd and 23d. Members present represented seventeen states, including the District of Columbia and several Canadian provinces. Registrar Morgan T. Ryan was elected to membership in the Association and former Registrar Major George A. Parker was elected to honorary membership.

The Conference directed its attention chiefly to matters of safety on the public highways. Mechanical power brakes, the hazards of gasoline distribution, gasoline advertisements emphasizing speed, reciprocity between states particularly in respect to motor trucks, motor vehicle headlamps and headlamp bulbs with a reflective coating on the front of the bulb glass, were also subjects of considerable discussion by the Conference.

ANALYSIS OF RECEIPTS

The fees received for the year 1931, together with the number of certificates of registration issued in each classification and the number of licenses granted, etc., are shown in the following table:—

Certificates of registration:

Passenger cars (including taxicabs)	885,953	\$2,670,643	90
Commercial cars	116,580	1,248,241	70
Busses	4,275	98,974	45
Trailers	650	34,927	50
Motor cycles	3,068	4,172	00
Manufacturers or dealers (including repairers)	3,360	9,999	00
Manufacturers or dealers additional cars (including repairers)	20,031	59,703	00
Licenses to operate:			
Original licenses	90,179 at \$2 00	—	180,358 00
Renewal licenses	934,125 at 2 00	—	1,868,250 00
Examinations	83,733 at 2 00	\$167,466	
Re-examinations	29,030 at 1 00	29,030	

Total examinations	112,763	196,496	00
Copies of certificates and licenses furnished	43,233 at \$1.00	43,233	00
Duplicate number plates furnished	7,535 at \$1 00	7,535	00

Lens approval applications	11 at 50 00	550 00
Miscellaneous receipts, auto lists, process fees, etc.		6,932 43
Total amount of fees		\$6,430,015 98
Motor vehicle fees rebated (deducted)		65,334 83
Net fees		\$6,364,681 15
Court fines received by the Treasurer and Receiver General		570,290 03
Total receipts credited Highway Fund account, 1931		\$6,934,971 18

EXPENSES OF THE REGISTRY OF MOTOR VEHICLES

The cost of running the Registry of Motor Vehicles for the year 1931 was \$1,571,-077.24, which was 24.6 per cent of the net fees collected. This cost, deducted from the receipts for the year, left the sum of \$5,363,893.94 available for legislative appropriation for highway work.

ANALYSIS OF EXPENDITURES FOR THE FISCAL YEAR 1931

Payrolls

Personal services:		
Regular payroll	\$926,142 18	
Overtime	13,543 44	
		\$939,685 62

Expenses

Supplies:		
Books, maps, etc.	\$1,264 09	
Typewriter supplies	3,977 89	
Adding machine repairs and supplies	103 47	
Other supplies	4,218 35	
Stationery	24,954 74	
Typewriter repairs	104 22	
Other repairs	533 66	
		\$35,156 42
Equipment and furniture:		
Typewriter machines	\$6,131 28	
Other machines	4,229 34	
Desks	605 24	
Bookcases, tables, etc.	291 16	
Filing cabinets	4,572 26	
Chairs	993 10	
Dictograph	2,455 33	
Partitions (Boston)	470 00	
Branches—counters, safes	699 10	
Electric fans	386 55	
Headlight and brake testing expense	68 00	
Uniforms	7,966 34	
		28,867 70
Traveling expenses:		
Officials	\$2,378 76	
Employees	41,943 62	
Aviation		
Automobiles (hired)	6,515 69	
Automobiles (owned by employees)	23 35	
Automobiles (owned by state):	117,640 29	
Maintenance of 10 automobiles	3,854 83	
Purchase of 1 automobile	528 30	
		\$172,884 84
Other services and expenses:		
Expressage	\$2,681 00	
Postage	81,039 80	

Printing:		
Other reports	1,789 73	
Other printing	10,037 13	
Telephone	7,716 02	
Premium on bonds of employees	388 58	
Rent	46,000 00	
Cleaning and janitor services	1,260 00	
Rat extermination	262 25	
Labor	572 10	
Number plates	191,041 23	
Direct mail lists	11,500 00	
Sundries	288 02	
Towels and soap	911 37	
Water and ice	1,110 00	
Branch offices:		
Rent, telephone, lighting, fuel and heating	\$27,658 06	
Labor and services	5,564 82	
Supplies and express	3,867 42	
		\$393,687 53
<i>Publicity for Safety Work</i>		
Labels	\$765 00	
Posters	13 33	
Sundries	16 80	
		\$795 13
Total		\$1,571,077 24
<i>Summary</i>		
Payrolls		\$939,685 62
Expenses		630,596 49
Publicity for Safety Work		795 13
		\$1,571,077 24
Special investigation of accident reduction		9,826 16

RELATING TO WATERWAYS AND PUBLIC LANDS BOSTON HARBOR

THE COMMONWEALTH FLATS AT SOUTH BOSTON

Commonwealth Pier 5

The usual work of maintenance and repair has been continued at the pier during the fiscal year. Work has been done upon the sprinkler system, the steam lines, the elevators, the roofs, the Ogden and Kinnear doors, the heating plant, and repairs have been made to gangways, floating fender logs, fittings and platforms.

The additional offices at the pier, begun in 1930 for the use of the engineering force, were completed Dec. 19, 1930, under contract of Aug. 26, 1930, with Carl S. Helrich, at a contract cost of \$18,377.96. A force of engineers and assistants numbering 335 engaged upon work relating to highways and bridges now occupy engineering offices at this pier.

On Feb. 10, 1931, a contract was made with the Massachusetts Electric Construction Company for furnishing and installing sixty-five wall outlets with connections, to facilitate electric service, on the first floor of the pier. The work was completed Mar. 13, 1931, at a contract cost of \$1,469.66.

A contract was made on May 5, 1931, with the Bay State Dredging and Contracting Company to furnish, drive, fit and secure new fender piles and foundation piles, to furnish and place new fender capping and to do other necessary timber work where required in the timber foundations of the platforms, at the pier. This work was completed July 28, 1931, at a contract price of \$1,347.87.

On July 7, 1931, a contract with the Gunitite Construction Company was made for furnishing labor and equipment for the reconstruction and repair by the gunitite process of the reinforced beams and slabs comprising the concrete platforms of the pier. The work was completed Nov. 18, 1931, at a contract cost of \$13,416.47.

Development of Land South of Summer Street

During the year the seven sections in Storehouse No. 1 on E Street have been occupied by the Wiggin Terminals, Inc. This Company also used section J of Storehouse No. 2 on D Street until October 1, 1931, and section K until Nov. 1, 1931. The Economy Grocery Stores Corporation has occupied section H of Storehouse No. 2 during the year under the lease of May 24, 1929, for a term of five years, and since Oct. 1, 1931, has used section J. Section K has been unoccupied since Nov. 1, 1931. The remaining sections of this storehouse are in use by the Department.

The work of repairing roofing, flashing, downspouts and sash at these warehouses, included under a letter contract with L. B. Renfrew Gray, dated Mar. 19, 1930, was completed Dec. 19, 1930, at a contract cost of \$7,484.87.

On July 15, 1931, a contract was made with the Klayman Construction Company for rebuilding about 281 linear feet of timber platform on the westerly side of Storehouse No. 1 and about 660 linear feet on the easterly side. The work was completed Sept. 26, 1931, at a contract cost of \$4,287.36.

Northern Avenue Sea Wall

The work of furnishing and placing stone riprap along the toe of the sea wall on the northerly side of Northern Avenue, to protect the pile foundations, under contract of Nov. 18, 1930, with William R. Farrell, was completed Dec. 4, 1930, at a contract cost of \$2,920.30.

Grasselli Wharf

The work under contract of Oct. 28, 1930, with Maurice M. Devine for painting, by spraying under compressed air, the exterior of the piershed at this wharf, was completed Dec. 11, 1930, at a contract cost of \$716.93.

This property has been occupied during the year by the Atlantic Radio and Marine Co., Inc., under the terms of a lease dated Oct. 1, 1930.

Staples Wharf

A contract was made on Dec. 2, 1930, with Maurice M. Devine for replacing and fitting fender piles, main piles, girder caps and stringers, and for repairs to the

deck planking at this wharf. The work was completed Feb. 17, 1931, at a contract cost of \$3,491.00.

THE COMMONWEALTH FLATS AT EAST BOSTON

Aircraft Landing Field — Boston Airport

The greater part of the area reclaimed by the Commonwealth at East Boston is now occupied by the City of Boston as an airport. On Aug. 10, 1928, under authority of Chapter 64 of the Resolves of that year, the Department leased to the City approximately 5,717,000 square feet of land for this purpose. The use of an additional area of 4,210,760 square feet was authorized by a lease executed July 14, 1930, in accordance with the provisions of Chapter 53 of the Resolves of 1930. Negotiations are now in progress for the lease to the City of two additional parcels, one northeasterly of the areas included under leases of 1928 and 1930, and the other southeasterly of that leased in 1930.

The use of these areas by the City is, however, subject to certain rights of occupancy and use granted by previous agreements to the Federal Government. The lease to the War Department under date of June 30, 1922, contains an option for annual renewal to June 30, 1932. A supplementary agreement under date of Dec. 27, 1926, extended this option to June 30, 1937. To the Navy Department the lease of June 16, 1924, gives the option of continuing by annual renewals the use of the area to June 30, 1932.

Reclamation of Flats

The work of dredging and filling at East Boston under contracts made by the Department for the purpose of reclaiming flats has been in abeyance since 1923. Between that year and Nov. 30, 1931, approximately 2,250,000 cubic yards of material dredged from various locations in the harbor have been deposited in the receiving basin. In the year ending Nov. 30, 1931, approximately 41,000 cubic yards were deposited upon flats northerly of Governors Island. The Commonwealth has reclaimed about 150 acres of land at East Boston.

The city of Boston, under license dated Oct. 14, 1930, authorizing dredging and filling, has reclaimed for the extension of the Boston Airport an area of approximately 38 acres.

By Chapter 271 of the Acts of 1931, the City of Boston was authorized "for the purpose of improving, extending and developing the Boston Airport" to borrow outside the statutory limit of indebtedness, from time to time, within a period of two years "such sums as may be necessary, not exceeding in the aggregate \$1,250,000." Under date of Oct. 20, 1931, license was granted by the Department to the City to build bulkheads, to fill solid and to dredge for the improvement, extension and development of the airport.

Commonwealth Pier 1, East Boston

Repairs to floating fender logs, fittings, and to the roof of the pier shed have been carried on during the year.

On Oct. 27, 1931, a contract was made with Michael Solimando for renewing fender piles, splicing foundation piles, replacing girder caps, wales, fender capping and deck planking in the platforms of the pier in locations designated by the engineer. This work is now in progress.

During the year the east and west docks of the pier have been used by the Eastern Steamship Lines, Inc., for steamers not in service.

JEFFRIES POINT DREDGING

On Jan. 28, 1931, hearing was held upon a petition of William H. Hearn for dredging in front of the Jeffries Yacht Club at Jeffries Point, East Boston.

A contract was made on June 9, 1931, with the Trimount Dredging Company to dredge the basin approximately 180 feet long and 70 feet wide to a depth of 6 feet at mean low water at the following contract prices: for dredging and disposing of the dredged material 69 cents per cubic yard, scow measurement; for removing and disposing of boulders \$20 per cubic yard. This work was completed July 1, 1931, at a contract cost of \$1,395.87.

GRAND JUNCTION WHARVES OR CUNARD DOCKS

The dredging between the Cunard docks and the main ship channel under contract of July 15, 1930, with the Bay State Dredging and Contracting Company was completed Mar. 21, 1931, at a contract cost of \$31,979.04.

On Aug. 11, 1931, the contract of July 7, 1931, with the Bay State Dredging and Contracting Company was extended to include the dredging of an area between the outer ends of Commonwealth Pier 1 and Pier 2 of the Grand Junction Wharves and the main ship channel, to a depth of 35 feet at mean low water, at a contract price of 38.5 cents per cubic yard. As funds sufficient to complete the entire project were not available, work was discontinued Sept. 22, 1931. The dredging carried out was done at a contract cost of \$3,160.47.

DREDGING OPPOSITE U. S. IMMIGRATION STATION

The dredging of a shoal area in front of the U. S. Immigration station at East Boston, under contract of Sept. 2, 1930, with the Bay State Dredging and Contracting Company was completed Mar. 26, 1931, at a contract cost of \$42,752.60.

EAST BOSTON — ABANDONED HULKS

Chapter 465 of the Acts of 1931, Special Session, making appropriations for the employment of additional persons as a measure of relief during the present unemployment emergency, provides for an expenditure by the Department of Public Works of \$65,000 for removing abandoned hulks or wrecks lying along the water front of East Boston and in Chelsea Creek. This Act was approved Nov. 12, 1931.

These wrecks are for the most part hulks of dismantled vessels, grounded and abandoned years ago, constituting in many cases a menace to navigation and considered by the residents of East Boston unsanitary and dangerous to the health of the community.

The Department is preparing plans and specification for the work of removing these hulks.

ATLANTIC AVENUE WATERFRONT DREDGING

The dredging of an area between the main ship channel and India, Central and Long Wharves under contract of July 15, 1930, with the Bay State Dredging and Contracting Company was completed Dec. 23, 1930, at a contract cost of \$20,097.

Hearing was held Jan. 28, 1931, upon petitions of the proprietors of Lewis, Long and Commercial Wharves and of the Eastern Steamship Lines, Inc., for a continuance of dredging along this waterfront from Fort Point Channel to Battery Wharf.

On July 7, 1931, a contract was made with the Bay State Dredging and Contracting Company for dredging in the following locations: An area 75 feet wide and 600 feet long in front of Foster's Wharf and Rowes Wharf to a depth of 20 feet at mean low water; an area off Pier 1 of the New York, New Haven and Hartford Railroad Company to a depth of 25 feet at mean low water; two areas off Central Wharf to a depth of 25 feet at mean low water; an area extending from Long Wharf to Union Wharf to a depth of 25 feet at mean low water. The contract prices for this work were: for dredging and disposing of dredged material, 38.5 cents per cubic yard, scow measurement; for removing and disposing of boulders, \$20 per cubic yard. This work was completed Sept. 22, 1931, at a contract cost of \$66,933.02.

NEPONSET RIVER, BOSTON

The dredging in Neponset River, in front of property of the Frost Coal Company, under contract of Nov. 5, 1930, with the Bay State Dredging and Contracting Company, was completed Dec. 16, 1930, at a contract cost of \$1,186.22.

SAVIN HILL BAY AND DORCHESTER BAY, DREDGING COULTER'S BEACH

The placing of sand and gravel at Coulter's Beach, Freeport Street, under contract of Nov. 25, 1930, with Henry R. Worthington, for the purpose of filling depressions and providing an even slope of beach, was completed Dec. 15, 1930, at a contract cost of \$4,106.52.

This work was made necessary by the dredging carried out in accordance with the provisions of Chapter 317 of the Acts of 1929.

HOUGH'S NECK, QUINCY, DREDGING

The dredging of a channel and basin at Hough's Neck under contract of Nov. 25, 1930, with the Bay State Dredging and Contracting Company, was completed Jan. 23, 1931, at a contract cost of \$14,987.14.

REPAIRS TO SEA WALLS, HULL AND QUINCY

An inspection made in the summer of certain sea walls on Boston Harbor showed the necessity for repairs to concrete masonry walls built by the Commonwealth in Hull and Quincy. A letter contract for this work was made Aug. 26, 1931, with P. J. Tuffey. Work under this contract, completed Oct. 28, 1931, included repairs to the sea wall at Hough's Neck, Quincy, at a cost of \$1,071.18, and to walls at Allerton Point, Pemberton Point and Stony Beach in Hull at a cost of \$543.40.

During these repairs it became apparent that a section of the wall at Stony Beach should be rebuilt and further repairs made to that wall and to the sea wall at Pemberton Point. On Nov. 10, 1931, a contract was made with Bradford Weston to construct about 55 linear feet of new sea wall and to place concrete footing under and in front of about 245 linear feet of existing sea wall at Stony Point, and to place concrete footing under and in front of about 175 linear feet of existing wall at Pemberton Point. The contract prices for this work are: for furnishing all labor and materials and constructing the new concrete sea wall, \$10 for each cubic yard of concrete measured in the completed work; for furnishing all labor and materials and constructing the concrete footings under and in front of existing walls, \$12 for each cubic yard of concrete measured in the completed work. This work is now in progress.

WINTHROP HARBOR DREDGING

Hearing was held Jan. 28, 1931, on a petition of the Winthrop Yacht Club and others for dredging a basin at the Yacht Club and a channel leading southerly to deep water. Statement was made at this time as to the interest of the town in the deposit of the dredged material for filling at the playground in process of construction at Point Shirley.

A contract was made on May 19, 1931, with the Saybrook Dredging Company to dredge the basin at the Winthrop Yacht Club approximately 900 feet long and 300 feet wide to a depth of 6 feet at mean low water and to deposit the dredged material as filling upon an area largely flats approximately 550 feet long and 350 feet wide belonging to the town at Point Shirley. The contract prices for this work are: for dredging and disposing of dredged material in disposal area specified, 55 cents per cubic yard measured in situ; for removing and disposing of boulders, \$15 per cubic yard. This work was completed Sept. 29, 1931, at a contract cost of \$31,851.05. Toward this cost a contribution of \$368 was made by the Winthrop Yacht Club, and a contribution of \$15,124 by the Town of Winthrop.

On Nov. 10, 1931, a contract was made with the Trimount Dredging Company to furnish labor, tools and equipment and to remove boulders from the basin of the Winthrop Yacht Club, Winthrop, at the following contract prices: for towing equipment and crew to the site of the work and returning same after completion, including all incidental expenses, the lump sum of \$95; for rental of floating plant, including lighter or dredge, tow boat, scows and all other necessary equipment including the crew to operate the equipment, supplies, repairs and all other incidental expenses, \$89 for each day of eight hours the equipment is used on the work; for each hour worked by the diver and tender including equipment and all incidental expenses connected therewith, \$5 for each hour employed on the work. This work is now in progress.

COTTAGE PARK CHANNEL, WINTHROP

Hearing was held Jan. 28, 1931, on petition of the Cottage Park Yacht Club for the dredging of a basin and a channel from the Clubhouse to the deeper channel in Boston Harbor.

On May 19, 1931, a contract was made with the North Atlantic Dredging Company to dredge to a depth of 7 feet at mean low water a channel approximately

120 feet wide and 900 feet long, and a basin approximately 250 feet wide and 500 feet long, at the following contract prices: for dredging and disposing of dredged material on the shore, 50 cents per cubic yard, measured in situ; for removing and disposing of boulders, \$20 per cubic yard.

This work was completed July 12, 1931, at a contract cost of \$15,585.00. Toward this cost a contribution of \$250 was made by the Cottage Park Yacht Club and one of \$5,000 by the town of Winthrop.

PLEASANT PARK YACHT CLUB

On Oct. 20, 1931, a contract was made with the Bay State Dredging and Contracting Company for dredging a basin about 120 feet long and 55 feet wide to a depth of 7 feet at mean low water at the Pleasant Park Yacht Club. The contract prices for this work are: for dredging basin and disposing of dredged material, \$1.08 per cubic yard, scow measurement; for removing and disposing of boulders, \$20 per cubic yard.

This work was completed Oct. 23, 1931, at a contract cost of \$1,499.04.

HAYWARD'S CREEK

In order to allow the widening of a part of East Howard Street in Quincy, to decrease traffic congestion, the Department on Oct. 14, 1931, conveyed to the city of Quincy a parcel of land near East Howard Street, to be used for highway purposes. This deed was given under the provisions of Chapter 135 of the Acts of 1927.

RIVERS, HARBORS, TIDE WATERS AND FORESHORES OUTSIDE OF BOSTON HARBOR

For the improvement of rivers, harbors, tide waters and foreshores outside of Boston Harbor, in accordance with the provisions of section 11, chapter 91, General Laws, an appropriation of \$175,000 was made during 1931, with the following condition: —

“provided, that all expenditures made for the protection of shores shall be upon condition that at least fifty per cent of the cost is covered by contributions from municipalities or other organizations and individuals and that in the case of dredging channels for harbor improvements at least twenty-five per cent of the cost shall be so covered.”

An appropriation of \$30,000 was also available during the year for the maintenance of structures, and for repairing damages along the coast line or river banks of the Commonwealth, and for the removal of wrecks and other obstructions from the tide waters and great ponds.

Petitions were filed with the Department during the year for surveys and improvements in the following localities: Annisquam River, Gloucester; Chatham Shore, Chatham; Cherry Island Bar, Revere; Cohasset Harbor, Cohasset; Connecticut River, West Springfield; East Bay, Barnstable; Lagoon Pond, Oak Bluffs and Tisbury; Lewis Bay, Barnstable; Long Beach, Rockport; Manchester Harbor, Manchester; Maraspin or Mill Creek, Barnstable; Marshfield Sea Walls, Marshfield; Newburyport Breakwater, Newburyport; Phinney's Harbor, Bourne; Rockport Harbor, Rockport; Scituate Sea Walls, Scituate; Smith's Cove, Gloucester; South River, Scituate and Marshfield; Waquoit Bay, Falmouth and Mashpee.

Public hearings have been held, certain estimates of cost made, but no work has been done to carry out the improvements petitioned for in Cherry Island Bar, Revere; Connecticut River, West Springfield; Lagoon Pond, Oak Bluffs and Tisbury; Lewis Bay, Barnstable; Newburyport Breakwater, Newburyport; Phinney's Harbor, Bourne; Smith's Cove, Gloucester; South River, Scituate and Marshfield.

Information relating to work previously done in various rivers and harbors of the Commonwealth may be found in the annual reports of the Board of Harbor and Land Commissioners, the Commission on Waterways and Public Lands, the Division of Waterways and Public Lands of the Department of Public Works and in the tables of the Appendix accompanying the present report. These reports

show localities, character of work, appropriations and expenditures by the Commonwealth, and certain appropriations and expenditures by the Federal Government.

An account of work done during the year 1931 for the improvement of rivers, harbors, tide waters and foreshores outside of Boston Harbor, follows:

ALLENS HARBOR, HARWICH

The work of building a timber fence about 100 feet long, of placing stone riprap in front of the fence and sand as back filling against it, and of despositing stone riprap along the easterly bank northerly of the east jetty, was completed Dec. 29, 1930, at a contract cost of \$2,783.92.

Hearing was held Jan. 28, 1931, on petition of E. Donald Dodge for dredging Allens Harbor. At this hearing the Selectmen asked, also, for an extension of the riprap protective work.

On Mar. 17, 1931, a contract was made with the Trimount Dredging Company for dredging a channel 60 feet wide on the bottom and 5 feet deep at mean low water, through the sand bars southerly of jetties at the entrance to Allens Harbor, and the removal of shoals between the jetties and extending into the basin, to a depth of 4 feet at mean low water. The contract prices for this work were: for dredging the channel through the sandbars southerly of the end of the west jetty and disposing of excavated material on marsh and flats, \$1.00 per cubic yard; for dredging the channel between the jetties and disposing of excavated material on marsh and flats, 40 cents per cubic yard. This work was completed Apr. 15, 1931, at a contract cost of \$4,000. Toward this cost a contribution of \$2,000 was made by the town of Harwich.

A letter contract was made June 16, 1931, with George W. Starbuck for rebuilding about 50 linear feet of the outer end of the westerly jetty for the lump sum of \$650. This work was completed July 3, 1931.

The extension of the protective work requested by the Selectmen has been provided for under contract of Nov. 24, 1931, with George W. Starbuck to furnish material and construct a timber fence about 75 feet long, to furnish and place about 70 tons of stone riprap in front of the timber fence, about 50 cubic yards of sand as backfilling against the completed fence, and about 80 tons of stone riprap in strengthening sections of the existing timber fence, at the following contract prices: for each linear foot of fence measured in place, including the furnishing of all labor and materials and the performance of all excavation, backfilling and incidental work, \$7.75; for each ton of riprap furnished and placed, including all grading and incidental work, \$4.00.

This work is now in progress. Toward the cost of this project a contribution of \$600 has been made by the town of Harwich.

Amount expended during the year, \$8,063.69. Total expenditure to Dec. 1, 1931, \$34,796.96.

CENTERVILLE RIVER, BARNSTABLE

The work of dredging a channel in Centerville River under contract of July 22, 1930, with the Trimount Dredging Company, was completed Sept. 1, 1931, at a contract cost of \$23,746.00.

During the dredging in this river a large number of stumps and logs were found within the limits of the channel. These obstructions were unexpected and not provided for by the terms of the contract. The contractor was able, however, to remove many of them and to excavate around those remaining, to a depth of 5 feet below mean low water.

After the completion of the work about 74 pieces of stump protruding above this plane interfered with the safe use of the channel and caused complaints to the Department.

Under a letter contract of Oct. 28, 1931, with Louis A. Byrne, these stumps were removed at a contract cost of \$1,575.00. This work was completed Nov. 25, 1931.

The dredging in this river has provided for boating a channel 5 feet deep at mean low water and 50 feet wide on the bottom, extending about 5,700 feet easterly from the foot bridge. In addition, considerable dredging has been done by owners of

property along the river. Many of these owners are now constructing piers at their premises to facilitate their use of the improved channel.

Amount expended during the year, \$35,810.93. Total expenditure to Dec. 1, 1931, \$44,093.52.

CHATHAM SHORE PROTECTION

Hearing was held Apr. 29, 1931, upon petition of the Selectmen of Chatham for the placing of riprap at the foot of Lighthouse Bluff and along the shore where severe erosion took place during the storms of Mar. 4. and 8, 1931.

On June 23, 1931, a contract was made with Joseph W. Nickerson for furnishing and placing about 5,000 tons of stone riprap at the foot of the bank east of Chatham Light, at a contract price of \$3.79 for each ton of 2,000 pounds in place in the completed work. Under this contract work was completed Aug. 28, 1931, at a contract cost of \$18,757.01. Toward this cost the town of Chatham made a contribution of \$10,500.

At the completion of the contract heavy stone riprap and chips had been placed for the protection of the bank for a distance of 1,300 feet.

Amount expended during the year, \$19,813.19. Total expenditure to Dec. 1, 1931, \$19,813.19.

COHASSET HARBOR, COHASSET

Hearing was held Jan. 28, 1931, on petition of the Selectmen of Cohasset for dredging in Cohasset Harbor.

A contract was made on Sept. 8, 1931, with the Bay State Dredging and Contracting Company to dredge four areas in Cohasset Harbor, one to a depth of 8 feet, the others to a depth of 6 feet at mean low water. The work was done by the hydraulic method at the following contract prices: for dredging and disposing of the excavated material on the marsh and flats by hydraulic process, 48 cents per cubic yard measured in place; for removing and disposing of boulders, \$20 per cubic yard.

This work was completed Oct. 19, 1931, at a contract cost of \$18,374.40. Toward this cost a contribution of \$5,000 was made by the town and of \$4,000 by the Cohasset Yacht Club and by individuals interested in the dredging.

Amount expended during the year, \$16,371.33. Total expenditure to Dec. 1, 1931, \$113,435.77.

EAST BAY, BARNSTABLE

Hearing was held on Jan. 28, 1931, on petition of the Selectmen of Barnstable for dredging in East Bay.

A contract was made on May 26, 1931, with the Trimcunt Dredging Company for dredging a channel at the entrance of Centerville River to a width of 50 feet on the bottom and to a depth of 5 feet at mean low water, and for dredging the entrance channel to East Bay to a width of 60 feet on the bottom and a depth of 6 feet at mean low water. The contract prices for this work were: for dredging and disposing of excavated material upon the marsh and flats by hydraulic process, including the construction of necessary dikes and sluices, 35 cents per cubic yard, measured in place; for removing and disposing of boulders, \$10 per cubic yard. The dredging was completed Aug. 27, 1931, at a contract cost of \$7,094.15. Toward this cost a contribution of \$4,000 was made by the town of Barnstable.

The dredging done in the entrance to East Bay and in the channel extending easterly from the basin in the bay to the footbridge, a distance of 2,400 feet, has provided a connection with the channel in Centerville River, so that boats may now pass from a point near the head of Centerville River, through the dredged channel and into Nantucket Sound. The minimum depth of this channel is 5 feet at mean low water and its minimum width 40 feet on the bottom.

GREEN HARBOR, MARSHFIELD

The building of the timber fence on the westerly side of the west jetty at the harbor entrance, under contract of Oct. 14, 1930, with Owen W. Duffy was completed Jan. 3, 1931, at a contract cost of \$4,069.75.

On Apr. 28, 1931, contract was made with the Trimount Dredging Company for dredging by hydraulic process a channel and basin to a depth of 6 feet at mean low water at Green Harbor, Marshfield, at the following contract prices: for dredging channel and basin and disposing of the excavated material on land and marsh, including the construction of the necessary dikes, 41.4 cents per cubic yard; for removing and disposing of boulders, \$20 per cubic yard. This work was completed Oct. 5, 1931, at a contract cost of \$34,500.28.

A contract was made Apr. 28, 1931, with Thomas Whalen & Sons, Inc., for the rebuilding of the two stone jetties at the entrance to Green Harbor, the construction of about 450 linear feet of timber fence westerly of the westerly jetty, and of about 196 linear feet of concrete wall at the inshore end of the easterly jetty. The contract prices for this work were: for each ton of riprap or stone chips furnished and placed in the completed work, including all incidental work, \$3.20; for each linear foot of timber fence measured in place, including the furnishing of labor and materials, and the performance of all excavation, backfilling and incidental work, \$6.00; for each cubic yard of concrete measured in place in the completed work, including all forms, excavation and incidental work, \$14. This work was completed July 23, 1931, at a contract cost of \$23,406.18.

Toward the cost of the dredging and of the rebuilding of the jetties, under the two contracts of Apr. 28, 1931, a contribution of \$30,000 was made by the town of Marshfield.

In July requests were received from the Selectmen and from individuals for additional dredging in the harbor. On Oct. 6, 1931, a contract was made with the Trimount Dredging Company for dredging by hydraulic process a channel 6 feet deep at mean low water and 75 feet wide on the bottom, at the following contract prices: for dredging channel and disposing of the excavated material on the upland and marsh out of tide water within areas approved by the Department, 38 cents for each cubic yard measured in place; for removing and disposing of all boulders, \$20 for each cubic yard.

This work was completed Nov. 14, 1931, at a contract price of \$19,760. Toward the cost of this dredging a contribution of \$5,000 was made by the town and one of equal amount by individuals interested in the improvement.

During the year the dredging carried on has provided a channel six feet deep at mean low water and 75 feet wide on the bottom, extending from the 6-foot contour in Cape Cod Bay for a distance of about 2,200 feet to a small anchorage basin, and a channel of the same depth and width extending from the anchorage basin northerly for a distance of about 1,200 feet to a point about 700 feet southerly of the dike across the head of the river. The jetties at the river entrance have been reinforced by the construction of a timber bulkhead and a concrete wall, and by the placing of riprap.

Amount expended during the year, \$79,476.21. Total expenditure to Dec. 1, 1931, \$158,513.16.

GUN ROCK — GREEN HILL SEA WALL, HULL

An inspection made in September of the sea wall showed a section of the structure at Green Hill broken at the top for a length of about 40 feet to a depth varying from two to three feet. A letter contract for the repair of the wall was made with Frank H. Barry on Oct. 6, 1931. The work was completed Oct. 19, 1931, at a contract cost of \$376.23.

Amount expended during the year, \$319.80. Total expenditure to Dec. 1, 1931, \$78,259.13.

HERRING RIVER, HARWICH

The work of dredging a channel in Herring River from the 6-foot contour in Nantucket Sound to the steel highway bridge over the river, under contract of Aug. 26, 1930, with the Trimount Dredging Company, was completed Jan. 10, 1931, at a contract cost of \$52,852.50. Contributions amounting to \$25,600 were made in 1930 toward the cost of this dredging.

The dredging of an anchorage basin below the Lower County Bridge, under contract of Nov. 25, 1930, with the Trimount Dredging Company, was completed Jan. 7, 1931, at a contract cost of \$8,000. Toward this cost a contribution of \$4,000 was made in 1930.

In January of this year additional dredging in the entrance channel of the river was requested. A contract was made on Feb. 17, 1931, with the Trimount Dredging Company for dredging the entrance channel of Herring River to depths of from 8 feet to 10 feet at mean low water and to widths varying on the bottom from 40 feet to 100 feet. The contract price for dredging the channel and disposing of the excavated material on marsh and flats adjacent to the work, including the construction of the necessary dikes, was thirty cents for each cubic yard. This work was completed Mar. 2, 1931, at a contract cost of \$7,583.40. Toward this cost a contribution of \$2,000 was made by William H. Doble and one of an equal amount by the town of Harwich.

The dredging in Herring River has provided a channel 3,050 feet long, 6 feet deep at mean low water and 60 feet wide on the bottom, extending from the 6-foot contour in Nantucket Sound to the Lower County Bridge, and a channel of the same depth and width, 3,750 feet long, extending from the Lower County Bridge to the main highway bridge over the river. A basin dredged southerly of the Lower County Bridge affords anchorage for boats drawing not more than 6 feet of water.

Amount expended during the year, \$45,383.82. Total expenditure to Dec. 1, 1931, \$131,384.96.

LAKE ANTHONY, OAK BLUFFS

Hearing was held Jan. 28, 1931, on petition of the Selectmen of Oak Bluffs for dredging in Lake Anthony.

A contract was made Apr. 28, 1931, with the Bay State Dredging and Contracting Company for dredging two areas in Lake Anthony to a depth of 7 feet and 8 feet, respectively, at mean low water, at the following contract prices: for dredging and disposing of dredged material, 42 cents per cubic yard, scow measurement; for removing and disposing of boulders, \$20 per cubic yard. This work was completed June 24, 1931, at a contract cost of \$19,012.14. Toward this cost a contribution of \$10,000 was made by the town of Oak Bluffs.

The completion of this dredging provides in Lake Anthony an anchorage area of about 13 acres with a depth of 7 feet at mean low water, and a channel and basin with an area of 3.6 acres and a depth of 8 feet at mean low water.

Amount expended during the year, \$21,880.27. Total expenditure to Dec. 1, 1931, \$97,411.51.

LONG BEACH, ROCKPORT

In March request was received from the Selectmen of Rockport for assistance in the protection of Long Beach where, during the storm of Mar. 4, 1931, a timber bulkhead about 3,300 feet long, owned by the town, was completely destroyed. An examination was made of the beach and an estimate of the cost of a timber bulkhead and concrete sea wall.

By Item 625e of Chapter 460 of the Acts of 1931, an appropriation of \$25,000 was made for protective work at this beach upon condition that a contribution of an equal amount be made by the Town.

On Aug. 17, 1931, the contribution of \$25,000 was received from the Town of Rockport. A contract was made Aug. 18, 1931, with George W. Nicoll Co., Inc., for building a concrete sea wall about 3,300 feet long at Long Beach, at a contract price of \$11.20 for each cubic yard of concrete measured in place in the completed work. This work was completed Nov. 15, 1931, at a contract cost of \$48,463.52.

Amount expended during the year, \$43,125.74. Total expenditure to Dec. 1, 1931, \$43,125.74.

MANCHESTER HARBOR, MANCHESTER

Hearing was held Jan. 28, 1931, upon petition of the Selectmen of Manchester for dredging in Manchester Harbor.

On Apr. 28, 1931, a contract was made with the Bay State Dredging and Contracting Company for dredging four areas in Manchester Harbor, one to a depth of 6 feet below mean low water, and three to a depth of 8 feet at mean low water, at the following contract prices: for dredging and disposing of the dredged material, 56 cents per cubic yard, scow measurement; for removing and disposing of boulders, \$20 per cubic yard. The work was completed Aug. 25, 1931, at a contract cost of \$12,495.84. Toward this cost a contribution of \$6,500 was made by the town of Manchester.

There is now available in Manchester Harbor a main channel 8 feet deep at mean low water extending from the 6-foot contour in the bay to the railroad bridge. The outer portion of the channel for a distance of 3,500 feet has a width of 100 feet on the bottom, and the inner portion for a distance of 2,000 feet has a width of 75 feet.

A section of channel 8 feet deep at mean low water, 50 feet wide on the bottom and 600 feet long has been provided on the easterly side of Bow Bell Ledge. With vessels entering the harbor the use of this channel is optional, as it connects at each end with the wider channel. Anchorage basins adjacent to the main channel have been dredged to a depth of 6 feet at mean low water over an area of 20.5 acres.

Amount expended during the year, \$13,398.56. Total expenditure to Dec. 1, 1931, \$189,694.04.

MARASPIN OR MILL CREEK, BARNSTABLE

Hearing was held Jan. 28, 1931, upon petition of the Selectmen of Barnstable for dredging in Maraspin Creek.

On May 5, 1931, a contract was made with the Bay State Dredging and Contracting Company to dredge a channel in Maraspin Creek to a width of 60 feet on the bottom and a depth of 6 feet at mean low water at the following contract prices: for dredging and disposing of the dredged material on marsh and flats by hydraulic process, including the construction of necessary dikes and sluices, 40 cents per cubic yard, measured in place; for removing and disposing of boulders, \$20 per cubic yard. This work was completed July 3, 1931, at a contract cost of \$11,574. Toward this cost a contribution of \$5,000 was made by the town of Barnstable.

This dredging has provided a channel 2,250 feet long, 6 feet deep at mean low water and 60 feet wide on the bottom, extending from the 6-foot contour in Barnstable Bay to a point near the town landing. This channel affords access for the fishing boats to the cold storage plant and greatly facilitates the handling of fish at the plant.

Amount expended during the year, \$12,138.52.

MARSHFIELD SEA WALLS

The work of placing about 300 tons of heavy stone riprap and 100 tons of stone chips to protect about 125 feet of bank and timber bulkhead at Brant Rock, under contract of Nov. 25, 1930, with Philip B. Oakman, was completed Dec. 10, 1930, at a contract cost of \$2,500.

By the storm of Mar. 4, 1931, a section of the granite sea wall southerly of Brant Rock was undermined and seriously damaged. Under a letter contract dated Apr. 22, 1931, with Philip B. Oakman, a concrete foundation was placed under this wall, the stone work dislodged by the sea was replaced, and additional riprap deposited in front of the wall. The work was completed June 6, 1931, at a contract cost of \$5,938.19. Toward this cost a contribution of \$1,560.04 was made by the town of Marshfield, and one of equal amount by the County of Plymouth.

The necessity for repairing damages caused by severe storms along the Marshfield shore was brought to the attention of the Legislature by County and Town officials during the winter. To provide for protective work in Marshfield, Chapter 407 of the Acts of 1931 was passed in June, 1931.

This act authorizes an expenditure of not exceeding \$200,000 for the construction of a sea wall and the placing of riprap, upon condition that no work is done until the Town assumes liability for damages, and pays into the State Treasury the sum of \$66,666 and until the County so pays the sum of \$33,334. The act requires also an acceptance by vote of the County Commissioners of Plymouth County and by the Town of Marshfield in town meeting.

Certified copies of the votes of the Town and of the County Commissioners accepting the provisions of the Act were filed with the Department in July and August, the payments into the State treasury were made by the Town and County in August, and a certified vote of the Town of Marshfield submitted, assuming liability for damages.

Under the provisions of this act various contracts have been made for protective work along the Marshfield shore.

Under letter contract of Aug. 27, 1931, with Philip B. Oakman, the sea wall at Brant Rock easterly of Ocean Avenue was repaired by constructing concrete foot-

ings, a concrete face and replacing sections of the wall with concrete. The work was completed Nov. 20, 1931, at a contract cost of \$18,786.61.

A contract was made Sept. 15, 1931, with Raymond A. Bergesson to furnish and place about 4,000 tons of heavy stone riprap and 3,000 tons of stone chips to protect about 2,000 linear feet of bank, timber bulkhead and concrete sea wall at Brant Rock, east of Ocean Avenue and south of Shepard Street, at the following contract price: for each ton of riprap and chips furnished and placed in the completed work, including the removal of remains of old timber bulkheads, storing of material and other incidental work, the sum of \$2. This work is now in progress.

On Sept. 15, 1931, a contract was made also with Louis B. Cadario and Sons to build about 4,716 linear feet of concrete sea wall with return walls 25 feet long, concrete apron and wing walls, about 650 linear feet of riprap and 82 concrete jetties, on the beach south of Fieldston. The contract prices are: for furnishing materials and constructing the concrete sea wall and jetties, including all excavation, back filling and incidental work, \$7.48 for each cubic yard of concrete measured in the completed work; for furnishing materials and constructing concrete apron and wing walls, including all excavation, back filling and incidental work, the lump sum of \$1,250 for the completed work; for furnishing and placing heavy stone riprap, including all excavation and incidental work, \$3 for each ton of 2,000 pounds in place in the completed work. This work is now in progress.

After work was begun upon the wall at Fieldston it was found necessary to drive piling for foundations at sections where soft peat was encountered. The driving of the necessary piling, under letter contract of Sept. 30, 1931, with George W. Starbuck was completed Nov. 25, 1931, at a contract cost of \$3,809.04.

Requests were made as the work went on for an opening in the wall at the end of Beach Avenue. This opening and ramp were built by the contractor for the lump sum of \$1,570.

Amount expended during the year, \$103,997.79. Total expenditure to Dec. 1, 1931, \$130,425.45.

MENAMSHA INLET, CHILMARK AND GAY HEAD

An inspection made in September at Menamsha inlet and basin showed considerable damage by the March storm to the outer beach separating the waters of Vineyard Sound from the basin. A section of sea wall was broken, riprap washed down, filling back of the wall carried away and erosion was advancing rapidly on the westerly side of the entrance channel where the old timber bulkhead has disintegrated.

On Nov. 3, 1931, a contract was made with Merritt-Chapman and Scott Corporation for furnishing and placing about 2,900 tons of stone riprap and chips and about 340 cubic yards of sand fill in three separate locations at Menamsha Inlet in Chilmark and Gay Head, at the following contract prices: for each ton of riprap or stone chips furnished and placed in the completed work, including all incidental work, \$4.19; for furnishing and placing 340 cubic yards of fill, including all incidental work, the lump sum of \$300. This work is now in progress.

Amount expended during the year, \$105.05. Total expenditure to Dec. 1, 1931, \$117,097.16.

NEW BEDFORD STATE PIER

The larger portion of this pier has been, since September, 1927, under lease to the Lamport Manufacturing Supply Company, Inc.

The lease provides for the use by the Company of a specified portion of the pier for a period of ten years beginning Sept. 1, 1927, at a rental of \$6,000 per year for the first five years, and of \$10,000 per year for the five years following. The Company agrees by the terms of the lease to provide reasonable facilities for vessels desiring to use the present unenclosed area of the pier for water-borne commerce, as well as reasonable accommodation for loading and unloading cargo. The charges made for such uses of the pier are to be those established by the Department, effective since July 15, 1925.

By Item 625a of Chapter 460 of the Acts of 1931, an appropriation of \$50,000 was made for building an addition and for improvements to the State Pier. Under the provisions of this Act two contracts were made in July for work at the pier.

On July 14, 1931, a contract was made with Frank C. Taylor for furnishing all

necessary material and labor for the construction of a pile and timber platform about 565 feet long and 40 feet wide on the north side of the State Pier at New Bedford, at unit prices. The work was completed Nov. 23, 1931, at a contract price of \$49,078.03.

A contract was made on July 14, 1931, with P. J. McNally and Sons for the construction of an opening 14 feet wide and 15 feet high through the Immigration Shed at the New Bedford State Pier to provide an approach to the timber platform, and for laying concrete pavement in the adjacent driveway and yard. The contract prices for this work were: for furnishing all labor, materials and equipment necessary to make alterations to the immigration shed, the lump sum of \$839; for concrete pavement laid in driveway and approach, \$2.26 per square yard of concrete measured in place in completed work. This work was completed Sept. 1, 1931, at a contract cost of \$2,062.79.

The completion of the pile and timber platform adds materially to the facilities at the pier for handling cargoes, particularly cotton, which may now be unloaded directly from vessel to truck and taken from the pier to mill or warehouse. This direct loading was not practicable at the pier before the construction of this addition.

Although the platform was not completed until Nov. 23, 1931, requests were made for docking of vessels before that date and the first cargo was actually discharged Nov. 7-8. Since that time the platform has been used to its full capacity.

Minor repairs to the pier have been carried on during the year.

Amount expended for operation, maintenance and improvement during the year, \$46,728.86.

Income during the year, \$6,000.00.

Total expenditure for operation, maintenance and improvement to Dec. 1, 1931, \$99,917.41.

OAK BLUFFS SEA WALLS

The Selectmen of Oak Bluffs immediately after the storm of Mar. 8, 1931, called the attention of the Department to the damage resulting to a section of concrete wall easterly of the entrance to Lake Anthony. A length of wall of about 60 feet was undermined by this storm and moved forward. As this structure affords protection to the inshore end of the easterly jetty at the entrance to Lake Anthony, its condition was a menace to the security of other improvements by the Commonwealth at Lake Anthony.

On Sept. 1, 1931, a contract was made with Joseph W. Nickerson to straighten about 50 linear feet of concrete sea wall, to place a concrete footing under the wall and a concrete capping on top of about 150 linear feet of sea wall at the entrance to Lake Anthony. The contract prices for the work were: for furnishing labor and equipment and straightening the existing concrete sea wall, the lump sum of \$200; for furnishing each bag of Portland cement used in the concrete, including all form work, sand, gravel, excavation and backfilling, and all incidental work in connection with placing the concrete footings and cap on the wall, \$3.33. This work was completed Oct. 3, 1931, at a contract cost of \$1,288.91.

Amount expended during the year, \$1,396.85. Total expenditure to Dec. 1, 1931, \$141,077.77.

COMMONWEALTH PROPERTY AT PLYMOUTH

An appropriation of \$4,000 was made by the Legislature this year for the maintenance and repair of property at Plymouth acquired by the Pilgrim Tercentenary Commission and placed under the jurisdiction of the Department by vote of the Governor and Council on July 17, 1924.

The work of building concrete and gravel walks and setting granite curbing on the driveway to the State Pier, under contract of Nov. 25, 1930, with Domenik Romano was completed Dec. 15, 1930, at a contract cost of \$1,158.79.

A letter contract was made June 9, 1931, with the Bay State Dredging and Contracting Company for driving four piles on the outer face of the State Pier and fitting a section of timber fender. This work was completed June 15, 1931, at a contract cost of \$200.

On Nov. 17, 1931, a letter contract was made with the Beattie Corporation for repairs to the canopy over Plymouth Rock. This work is now in progress.

Amount expended during the year, \$4,713.89. Total expenditure to Dec. 1, 1931, \$40,400.97.

PROVINCETOWN TERCENTENARY COMMISSION

During the year the land at Provincetown acquired by the Provincetown Tercentenary Commission and placed under the control of the Department June 23, 1926, has been cared for from funds appropriated for the use of the Province Lands. One employee of the Department has been kept at work during the summer to maintain this park in proper condition.

ROCKPORT HARBOR, ROCKPORT

Hearing was held Jan. 28, 1931, upon petition of the Selectmen of Rockport, and others, for dredging two areas in Rockport Harbor.

A contract was made May 19, 1931, with the Bay State Dredging and Contracting Company for dredging two areas in Rockport Harbor, one north of "T Wharf" approximately 150 feet wide by 300 feet long with an approach channel 35 feet wide and 150 feet long; the other an irregular area south and east of "T Wharf," approximately 100 feet wide by 900 feet long. The contract prices for this work were: for dredging and disposing of dredged material, 50 cents per cubic yard, scow measurement; for removing and disposing of boulders, \$20 per cubic yard. The work was completed Aug. 4, 1931, at a contract cost of \$16,088.50.

Toward the cost a contribution of \$4,250 was made by the town of Rockport.

Amount expended during the year, \$17,177.18. Total expenditure to Dec. 1, 1931, \$32,897.46.

SCITUATE SEA WALLS

First Cliff. Hearing was held Jan. 28, 1931, upon petition of the Selectmen of Scituate and others for repairs at First Cliff at the inshore end of the jetty.

Under letter contract of June 16, 1931, with John J. Johnson, 200 tons of stone riprap were placed at the northerly end of First Cliff and at the inshore end of the southerly jetty at the entrance to Scituate Harbor at a contract cost of \$863.84. Toward this cost a contribution of \$500 was made by the town of Scituate.

North Scituate. Under letter contract of Apr. 7, 1931, with Frank H. Barry, repairs were made to the section of sea wall off Surfside Avenue at a contract cost of \$729.81. Toward this cost a contribution of \$437.08 was made by the town of Scituate.

Third Cliff. The riprap placed in previous years for the protection of the shore at Third Cliff was damaged by the storm of Mar. 4, 1931. In some of the areas affected, additional riprap is required, but in others adequate protection could be provided by returning the dislodged stone to its former position. Under a letter contract with Frank H. Barry, dated July 3, 1931, the work of replacing the dislodged riprap within certain areas was completed Aug. 15, 1931, at a contract cost of \$1,003.87.

Work Under Special Legislation

Hearings were held Jan. 28, 1931, upon petitions of the Selectmen of Scituate for the extension of sea walls at Sand Hills and Cedar Point and for the building of a new sea wall along the beach near the wreck of the old pilot boat "Columbia."

By Chapter 424 of the Acts of 1931 the Department was authorized to expend for the extension of sea walls and other shore protection in Scituate a sum not exceeding \$75,000, upon condition that no work should be begun until the town voted to accept the provisions of the Act, assumed liability for damages and paid into the treasury of the Commonwealth \$25,000, and until the County Commissioners of Plymouth County voted to accept the Act and paid into the treasury of the Commonwealth, \$12,500.

In July and August the Selectmen and the County Commissioners filed certified copies of the votes accepting the provisions of the statute, and paid the required sums into the State treasury. The Town of Scituate also voted to assume all liability for damages.

Under authority of this act work has been carried out for the construction, extension and repair of sea walls in Scituate, and for riprap protection of the shore, as follows:

Cedar Point

On Aug. 11, 1931, a contract was made with Crowley and Downey for building 284 linear feet of concrete sea wall at Cedar Point at a contract price of \$9.90 for

each cubic yard of concrete measured in place in the completed work. This work was completed Oct. 7, 1931, at a contract cost of \$3,406.89.

Humarock Beach

On Aug. 11, 1931, a contract was made with the Atwood-Thomas Construction Company for building about 1,385 linear feet of concrete sea wall with a return wall 25 feet long and twenty-six concrete jetties, at Humarock Beach, at the following contract prices: for furnishing materials and constructing the concrete sea wall and jetties, including all incidental work, \$9.20 for each cubic yard of concrete measured in the completed work; for furnishing and placing 4-inch yellow pine plank for openings in concrete wall, including the cost of materials, labor and all incidental work, ten cents for each board foot of lumber in place in the completed work. This work was completed Nov. 10, 1931, at a contract cost of \$25,114.16.

North Scituate

A contract was made Aug. 18, 1931, with Thomas Joseph McCue to build 8 concrete jetties and about 600 linear feet of concrete sea wall in two sections with an opening in one of the walls for the passage of vehicles. The contract prices for this work were: for furnishing material and constructing concrete sea walls and jetties, including all excavation, backfilling and incidental work, \$10 for each cubic yard of concrete measured in the completed work; for furnishing lumber for and placing the same in the opening in the concrete wall, including all fitting and incidental work, 5 cents for each foot board measure of lumber in place in the completed work.

This work was completed Nov. 28, 1931, at a contract cost of \$10,659.13.

Sand Hills

On Aug. 4, 1931, a contract was made with Crowley and Downey for the construction of about 312 linear feet of concrete sea wall, with an opening for the passage of vehicles, at the Sand Hills near the wreck of the Pilot Boat "Columbia" at the following contract prices: for furnishing materials and constructing the concrete sea wall, including all incidental work, \$10.02 for each cubic yard of concrete measured in the completed work; for furnishing all equipment and labor, the removal of timber bulkheads, the wreck of the Pilot Boat "Columbia" and the disposal of the same and all incidental work, the lump sum of \$400; for furnishing 4-inch yellow pine plank, including the cost of materials, labor and all incidental work, the lump sum of \$50. This work was completed Oct. 1, 1931, at a contract cost of \$5,127.54.

A contract was made Oct. 6, 1931, with Crowley and Downey for the construction of a concrete sea wall and six concrete jetties at the northwesterly end of the Sand Hills, at the following contract prices: for furnishing material and constructing the concrete sea wall, including all incidental work, \$9.90 for each cubic yard of concrete measured in the completed work; for furnishing materials and constructing six concrete jetties, including all incidental work, \$9.90 for each cubic yard of concrete measured in the completed jetties. This work was completed Nov. 10, 1931, at a contract cost of \$5,252.95.

A contract was made on Oct. 27, 1931, with Thomas Joseph McCue for placing a concrete top, face and footing on an existing concrete sea wall at the Sand Hills, and the construction of about 378 feet of wall along the shore of Scituate Harbor at Cedar Point and the repairing of about 120 feet of existing sea wall in the vicinity. The contract prices for this work were: for furnishing material and constructing the concrete top, face, footing and jetties, \$8.70 per cubic yard of concrete measured in the completed work; for furnishing $\frac{3}{4}$ " twisted steel reinforcing rods, four cents per pound; for furnishing material and constructing the new wall at Cedar Point and for repairing the existing wall, \$8.70 per cubic yard of concrete measured in the completed work.

This work was completed Dec. 19, 1931, at a contract cost of \$8,455.01.

Third Cliff

On Aug. 25, 1931, a contract was made with John P. Cavanagh for placing about 2,000 tons of heavy stone riprap to protect the face of a portion of the bluff at

Third Cliff. The contract price for furnishing and depositing the stone is \$2.24 per ton. This work is now in progress.

Amount expended for sea walls and other work of shore protection in Scituate during the year, \$59,978.02. Total expenditure to Dec. 1, 1931, \$384,296.47.

TAUNTON RIVER IMPROVEMENT

Chapter 405 of the Acts of 1930 provides:

"The department of public works may expend, from such appropriation as may hereafter be made, a sum not exceeding seventy thousand dollars, in addition to the sum of thirty thousand dollars hereinafter referred to, for the improvement for navigation of that part of the Taunton river extending from the city of Fall River to Weir village in the city of Taunton, and for payment for land purchased or taken, for land damages and other rights, and for the privilege of depositing material on land and flats of and adjoining said river; provided, that no part of said sums shall be available or expended until the congress of the United States shall approve a project, and make appropriation therefor, to improve that part of said river extending as aforesaid, by the construction therein of a continuous channel to a depth of at least twelve feet at mean low water; and provided, further, that no expense shall be incurred hereunder until said city of Taunton shall have contributed the sum of thirty thousand dollars toward the cost of the improvement herein authorized and shall have paid such sum into the state treasury, nor until said city of Taunton shall have agreed with said department to construct and/or maintain, as directed and approved by said department, a suitable wharf or terminal in connection with such improvement."

The project for the improvement of this river by the Federal Government was adopted by Act of Congress approved July 3, 1930, requiring that local interests shall provide, without expense to the United States, a suitable turning basin near the head of navigation and suitable bulkheaded areas for spoil disposal.

By order adopted by the Municipal Council of Taunton Feb. 10, 1931, approved by the Mayor Feb. 13, 1931, the sum of \$30,000 was appropriated by the city for its share of the cost of the improvement. On Feb. 17, 1931, the Municipal Council voted to provide any additional funds required for the turning basin and spoil areas. This vote was approved by the Mayor Feb. 18, 1931.

The Municipal Council of Taunton voted, also, on Feb. 24, 1931, to make such improvements in the existing municipal wharf as may be necessary to satisfy the requirements of the Department in accordance with the provisions of Chapter 405 of the Acts of 1930. This vote was approved by the Mayor on Feb. 25, 1931.

Chapter 245 of the Acts of 1931 made an appropriation of \$70,000 to carry into effect the provisions of Chapter 405, Acts of 1930.

Proposals for dredging in Taunton River to a depth of 12 feet at mean low water, a channel generally 100 feet wide from a point about 1,600 feet above the railroad bridge across the river at Somerset up to a point about 1,100 feet above Cobb's Wharf, Dighton, a total distance of about 17,100 feet, were received by the District Engineer, U. S. A., at Providence on June 15, 1931. The contract was awarded to the Atlantic Gulf & Pacific Company and this portion of the project has been completed. It is expected that work will be continued in 1932 and completed in 1933.

WAQUOIT BAY, FALMOUTH AND MASHPEE

Hearing was held Jan. 28, 1931, upon petitions of the Selectmen of Falmouth, and others, for rebuilding and raising the height of the breakwater and for dredging in Waquoit Bay.

A contract was made on June 9, 1931, with the Bay State Dredging and Contracting Company for dredging a channel from Nantucket Sound into Waquoit Bay, about 5,000 feet long, 60 feet wide on the bottom and 6 feet deep at mean low water, and for rebuilding the stone jetty at the entrance to the bay. For this work the contract prices were: for dredging and disposing of the excavated material on marsh and flats by the hydraulic process, including the construction of the necessary dikes and sluices, 25 cents per cubic yard measured in place; for removing and disposing of all boulders, \$20 per cubic yard; for riprap or stone chips furnished and placed in the completed work, \$6.70 per ton.

This work was completed Sept. 2, 1931, at a contract cost of \$33,820.67. Toward this cost a contribution of \$15,000 was made by the town of Falmouth and of \$500 by the town of Mashpee.

The dredging of the channel and the strengthening of the jetty has provided better facilities for navigation and increased normal range of tides about one foot. This increase materially improves the drainage of low areas around the bay, and creates better conditions for shellfish.

Amount expended during the year, \$35,889.90. Total expenditure to Dec. 1, 1931, \$93,314.40.

WEST HARWICH SHORE, HARWICH

An inspection made in April of the wire fence built last year showed considerable damage by storm. Under a letter contract of Apr. 30, 1931, with Louis A. Byrne, repairs were made to this fence for the lump sum of \$385.

Requests from the Selectmen and from owners of shore property were received during the summer for further protection along this shore. In the opinion of the Department the results desired can be attained by the building of from fifteen to twenty short jetties at intervals along the beach. This requires an expenditure estimated at \$25,000.

The town of Harwich is unable at present to make the necessary contribution of one-half the cost of the entire project, but has asked that a part of the work be done as soon as possible and has made a contribution of \$2,500 for the purpose. Specifications for the construction of four stone jetties are now being prepared.

Amount expended during the year, \$385. Total expenditure to Dec. 31, 1931, \$20,813.30.

WESTPORT HARBOR, WESTPORT

An inspection made in July of the breakwater built by the Commonwealth at the entrance to Westport Harbor showed that the greater part of the structure has settled two or three feet. A survey made in October revealed changes in the harbor depth indicating that the breakwater has resulted in the improvement of the harbor for purposes of navigation.

On Nov. 3, 1931, a contract was made with George W. Starbuck for furnishing and placing about 400 tons of stone riprap and chips in the stone jetty on the westerly side of Westport Harbor, at a contract price of \$5.40 for each ton of riprap or stone chips furnished and placed in the completed work. This work is now in progress.

Amount expended during the year, \$472.62. Total expenditure to Dec. 1, 1931, \$19,497.69.

WILD HARBOR, FALMOUTH

The work of dredging the entrance channel and anchorage basin in Wild Harbor, under contract of May 6, 1930, with the Trimount Dredging Company, was completed Dec. 15, 1930, at a contract cost of \$17,718.79.

This harbor has now an entrance channel 700 feet long, 60 feet wide on the bottom and 6 feet deep at mean low water, and an anchorage basin of the same depth with an area of 2.7 acres.

Amount expended during the year, \$4,777.30. Total expenditure to Dec. 1, 1931, \$55,128.66.

WITCHMERE HARBOR, HARWICH

The work of dredging the entrance channel to Witchmere Harbor, under contract of Nov. 5, 1930, with William E. Burke was completed Dec. 10, 1930, at a contract cost of \$5,241.60.

During the progress of the work requests were received for the dredging of the bar southerly of the entrance channel. Under a letter contract of Jan. 8, 1931, with William E. Burke this work was completed Jan. 27, 1931, at a contract cost of \$1,999.80. Toward this cost a contribution of \$500 was made by individuals interested in the improvement.

Amount expended during the year, \$7,620.41. Total expenditure to Dec. 1, 1931, \$63,415.54.

MISCELLANEOUS

GREAT PONDS

Jurisdiction over great ponds belonging to the Commonwealth was conferred upon the Board of Harbor and Land Commissioners by chapter 318, Acts of 1888.

This act applies to ponds containing in their natural state ten or more acres of land. Authority to sell and convey or lease, subject to the approval of the Governor and Council, any of the islands owned by the State in great ponds was later given by chapter 379, Acts of 1904, now section 2, chapter 91, General Laws.

During the year the Department has considered matters relating to: Baddacook Pond, Groton; Benson's Pond, Middleborough; Benton Pond, Otis; Big Sandy Pond, Plymouth; Cedar Pond, Carver; Cedar Pond, Lynn; Crystal Lake, Newton; Dunham Pond, Carver; Forge Pond, Granby; Great Herring Pond, Plymouth; Great Indian Pond, Plympton and Kingston; Lake Nipmuc, Mendon; Lake Nippinicket, Bridgewater; Lake Quannapowitt, Wakefield; Lake Tashmoo, Tisbury; Lake Winthrop, Holliston; Little Sandy Pond, Plymouth; Maquan Pond, Hanson; Nine Mile Pond, Wilbraham; Oyster Pond, Edgartown; Santuit Pond, Mashpee; Sherman Lake, Brimfield; Silver Lake, Wilmington; Simon's Pond, Sandisfield; Sippowisset Pond, Falmouth; South Cotuit Pond, Barnstable; White Island Pond, Plymouth; Whites Pond, Plymouth.

During the year surveys of the following great ponds have been made:

Balemans Pond, Concord

Area at time of survey 19.64 acres
Area includes about 2 acres which has been excavated to enlarge pond.
Area of natural pond not determined. Maximum depth, 11.8 feet.

Laurel Lake, Lee-Lenox

Area at time of survey 151.32 acres
Area of natural pond 110.87 acres
Area of flowed pond 169.82 acres
The natural pond area is divided between the two towns as follows: —
92.95 acres in Lee
17.92 acres in Lenox
Maximum depth, 50.8 feet.

Benton or Parish Pond, Otis

Area of pond at time of survey. 59.33 acres
Natural pond area 59.33 acres
Area of island in pond 0.15 acres
Maximum depth 28.0 feet

Clamshell Pond, Clinton

Area of pond at time of survey. 26.46 acres
Natural pond area 26.46 acres
Maximum depth 27 feet

ACCESS TO GREAT PONDS

During the year two petitions relative to access to great ponds have been considered in accordance with the provisions of chapter 453 of the Acts of 1923.

Public Hearing before the joint board was held on December 17, 1930, upon a petition of ten citizens of the Commonwealth for the establishment of a right of way to Dunham Pond in the town of Carver. A special report to the legislature was made under date of January 9, 1931, stating:

"The Board is of the opinion that public necessity and convenience require the establishment of a right of way to Dunham Pond.

"The Board, therefore, recommends that the county commissioners of Plymouth County be authorized and directed to provide a right of way for public access to Dunham Pond."

Chapter 306 of the Acts of 1931 was passed in May, authorizing and directing the County Commissioners of Plymouth County to lay out a right of way in Carver from Tremont Street to Dunham Pond for public access, in accordance with plans approved by the Department of Public Works.

On May 20, 1931, the joint board gave a public hearing upon the petition of ten citizens of the Commonwealth for the establishment of a right of way for public access to Simon's Pond or Lake Marguerite in the town of Sandisfield. No further action has been taken.

BENSON'S POND, MIDDLEBOROUGH

Benson's Pond is a great pond belonging to the Commonwealth, with an area of about 32 acres, but it is very shallow and at times practically dry. During the year a request was made by one of the owners of property upon the shore to be allowed to buy the pond area and convert it into cranberry bogs. The work of draining the pond and constructing cranberry bogs within the reclaimed area was recommended by the State Reclamation Board as the drainage would create conditions in the pond area unfavorable to the breeding of mosquitoes.

In April, Chapter 243 of the Acts of 1931 was enacted, providing,

"Subject to the written approval of the governor and council, and to such terms, conditions, restrictions and reservations as the department of Public Works may, with such approval, impose, the said department may convey, in the name and on behalf of the commonwealth, all the right, title and interest which the commonwealth has the power to convey in and to Benson's Pond, so called, including the waters and the land under the same, situated in the southerly part of the town of Middleborough and containing approximately twenty-five acres. Said conveyance shall be subject to any private rights in the property conveyed and shall be in a form approved by the attorney general."

After the passing of this Act a petition was filed by George A. Cowen, owner of property upon the shore of Benson's Pond, asking for conveyance to him of the title of the Commonwealth to this pond in order that he might drain the pond area and convert it to cranberry bogs. His petition was accompanied by a plan showing in detail the work proposed.

A public hearing, duly advertised, was held by the Department at the State House on Sept. 16, 1931. No evidence was received by the Board of any opposition to the project proposed by Mr. Cowen.

Under date of Oct. 13, 1931, under the provisions of Chapter 243 of the Acts of that year, a deed was signed conveying to George A. Cowen the right, title and interest of the Commonwealth in Benson's Pond. This conveyance was approved by the Governor and Council Oct. 21, 1931.

This instrument provides that the work shown upon the plan submitted shall be carried out within five years, and that unless the draining and developing of the entire pond area for cranberry culture is completed within that period, all right, title and interest in the property shall revert to the Commonwealth.

CAPE COD CANAL LANDING PLACE

Chapter 441 of the Acts of 1931 provides:

"Section 1. The department of Public works is hereby authorized and directed to request the war department of the United States to grant a permit and recommend a suitable location for the construction of a pier on the Cape Cod canal for the purpose of providing thereat adequate facilities and equipment for the handling of passengers and freight of ocean-going and other vessels, including in such permit authority to dredge a channel to said pier to accommodate such vessels. After the said department of public works has obtained the permit and recommendation as to location, said department may expend such sum, not exceeding in the aggregate two hundred and fifty thousand dollars, as may hereafter be provided.

"Section 2. To meet the expenditures necessary in carrying out the provisions of section one, the state treasurer shall upon request of the department issue and sell, at public or private sale, bonds of the commonwealth, registered or with interest coupons attached, as he may deem best, to an amount, to be specified from time to time by the department, but not in excess of two hundred and fifty thousand dollars in the aggregate. All such bonds shall be designated on their face, Cape Cod Canal Pier Loan, and shall be on the serial payment plan for a maximum term of ten years dating from the time when the permit and recommendation required in section one has been obtained. Said bonds shall bear interest, payable semi-annually, at such rate as the state treasurer, with the approval of the governor and council, shall fix.

"Section 3. Upon the completion of the work authorized in section one, said department shall have the supervision, control and maintenance of said pier, facilities and equipment, and shall make such rules and regulations and establish

such reasonable rates for the use of said pier, facilities and equipment as may be approved by the governor and council."

On June 26, 1931, at two o'clock in the afternoon the Department gave a public hearing, duly advertised, in the Town Hall at Bourne, to all persons interested in the provisions of the Act. One of the purposes of this hearing was to secure expressions of opinion as to the preferable location for the pier authorized by the statute. The greater number of those present at the hearing appeared to be strongly in favor of the building of the pier at the Buzzards Bay end of the canal.

The Department under the provisions of the Act has requested the War Department to grant a permit and recommend a suitable location for the construction of the pier. No further action can be taken by the Board until the necessary authorization is received from the War Department.

PROVINCE LANDS

The territory belonging to the Commonwealth known as the Province Lands at Provincetown comprises about 3,810 acres lying northerly and westerly of a line described in chapter 470, Acts of 1893. By the terms of this act the Board of Harbor and Land Commissioners was given general care and supervision of this area.

Reclamation work under the direction of a superintendent has been carried on since 1894. To check the movement of the sand, the barren dunes are first covered with brush or planted with beach grass. The grass is pulled in bunches about two inches thick and transplanted in rows about 4 feet apart and 6 inches deep. The transplanted grass lives between three and four years. This work is followed and reinforced by the transplanting of trees and shrubs.

During the year work on these lands has been continued in accordance with these methods. Four acres of sand dunes have been covered with brush; 10,000 native pines on the sod have been transplanted and 350,000 seedlings of Scotch and Austrian pines planted. Bayberry has been planted along the new road for a distance of about one-half mile.

The work of building a sand marsh sod and timber dike about 3,200 feet long across Race Run under contract of July 15, 1930, with Frank H. Barry was completed Feb. 20, 1931, at a contract cost of \$18,950. The filling of areas back of the dike, the replacing of sod and the care of drains has been carried on by the force employed by the Superintendent upon these lands.

Under the provisions of Chapter 386 of the Acts of 1930, the Department on Dec. 17, 1930, conveyed to the United States a tract of land containing about 4.77 acres westerly of the northerly end of the State Highway at Sea View, for use as a site for a Coast Guard Station.

The sum of \$298.35 has been paid into the State Treasury during the year from licenses issued for cultivating and picking blackberries on the bogs and for mowing meadows and from permits for occupying areas on these lands.

Amount expended during the year, \$11,457.87. Total expenditure to Dec. 1, 1931, \$157,235.79.

STATE BOUNDARY LINES

The work of resetting monuments found damaged during the perambulation of the State Line in 1930 was completed this year by the carrying out of the following work:

Massachusetts-Rhode Island Line,—Bounds numbered 5, 7, 25, 34, 35, 61, 62, 78, 83, 116, 117, 126 and two line stones on Newport Avenue, Attleborough and Pawtucket, reset.

Massachusetts-Connecticut Line,—Bound Dudley-Woodstock "C" moved and reset.

Massachusetts-New Hampshire Line,—Bound numbered 116 moved easterly about 75 feet and reset.

TOWN BOUNDARY LINES

During the year a survey was made of a portion of the boundary line between the towns of Newbury and Rowley crossing Plum Island River. Line stones were placed to mark this line as defined by Chap. 402, Acts of 1931.

The location of a bound stone was also determined on the Sharon-Walpole line and the bound at the three town corner of Lynn-Lynnfield-Peabody was relocated.

CONSERVING AND EQUALIZING THE FLOW OF WATER IN RIVERS AND STREAMS

By Chapter 359, Acts of 1909, chapter 564, Acts of 1912, and chapter 84, Resolves of 1917, co-operation was established between the Commonwealth and the Water Resources Branch of the United States Geological Survey, so that results of work relating to the gauging of streams within the Commonwealth and other work of a similar character carried on by the said survey have been obtained for use by the Department and are available for other Departments of the Commonwealth. Toward the cost of this work the Department has paid during the year, \$5,000.

During the year two new gauging stations were established, one on the south branch of the Hoosac River in Adams and one on the north branch of the Hoosac River in North Adams.

RE-ESTABLISHMENT OF CERTAIN TRIANGULATION STATIONS

By section 33, chapter 91, General Laws, the Department is authorized to make such surveys and to do such other work as may be required by any order of the Land Court, to re-establish and permanently mark certain triangulation points and stations previously established in connection with the topographical survey of the Commonwealth, and the town boundary survey, which have been lost or destroyed and to obtain the geographical position of such new points and stations as may be required from time to time by the Court.

During the year the locations of the following triangulation points were determined and permanently marked on the ground and the geographical positions furnished to the Land Court: 41 stations in Nantucket; 7 stations in Duxbury. Amount expended during the year, \$987.99.

LICENSES AND PERMITS

During the year 140 licenses were granted for work to be done in tide waters, great ponds, Connecticut River and Merrimack River and 115 permits for miscellaneous purposes. The Department also approved 127 permits granted by cities and towns for the construction and maintenance of fish weirs in tide water.

EXPENDITURES FOR DEVELOPMENT AND IMPROVEMENT IN BOSTON HARBOR, 1859-1931, INCLUSIVE

<i>Payments</i>	<i>To Nov. 30, 1930</i>	<i>1931</i>	<i>Total</i>
Boston Harbor	\$1,417,933 18 ¹		
Dredging and filling		\$100,815 44	
Maintenance of property		84 00	
Special appropriation		66 85	
Contributions		—	\$1,518,899 47
Commonwealth Flats, East Boston	3,093,326 83 ²	—	3,093,326 83
Commonwealth Flats, South Boston	4,872,123 69		
Special appropriation		20,000 00	4,892,123 69
Castle Island	738,821 71		
Dredging and filling		1,407 00	
Maintenance of property		125 00	740,353 71
Commonwealth Pier No. 5, South Boston:			
Construction	4,014,790 45		
Maintenance	550,892 94	63,649 60	
Dredging	22,050 36		
Operation and supervision	1,414,159 94	122,088 65	6,187,631 94
Commonwealth Pier No. 1, East Boston:			
Construction	1,199,703 23		
Operation and supervision	103,458 40	8,967 49	
Maintenance	13,335 18	2,211 87	1,327,676 17

¹ Contribution by Quincy Market Cold Storage and Warehouse Corporation in 1921, \$4,000.00; by Bethlehem Ship Building Corporation in 1930, \$10,000.00.
² Appropriated by City of Boston in 1926, \$10,000.00.

<i>Payments</i>	<i>To Nov. 30, 1930</i>	<i>1931</i>	<i>Total</i>
Commonwealth Pier No. 6, South Boston:			
Construction	1,092,149 06	—	
Maintenance	51,937 90	—	1,144,086 96
Dry Dock	3,169,651 15 ³	—	3,169,651 15
Hayward Creek	385,959 61 ⁴	—	
Dredging and filling		20 00	385,979 61
Mystic River	428,897 17 ⁵	—	428,897 17
Malden River	32,268 70 ⁶	—	32,268 70
Chelsea Creek	60,561 88	—	60,561 88
Commercial Point, Dorchester Bay	53,213 10	—	53,213 10
Maintenance of Property of Commonwealth (in addition to maintenance items listed above)	310,962 39	33,842 65	344,805 04
	<hr/>	<hr/>	<hr/>
	\$23,026,196 87	\$353,278 55	\$23,379,475 42

EXPENDITURES AND CONTRIBUTIONS FOR IMPROVEMENT OF SMALL HARBORS AND CHANNELS WITHIN BOSTON HARBOR, UNDER THE DIRECTION OF THE DEPARTMENT OF PUBLIC WORKS AND ITS PREDECESSORS, FROM 1893 TO 1931, INCLUSIVE

<i>Locality and Character of Work</i>	<i>Contributions by Municipality or Others</i>	<i>Total Expenditure</i>
Cottage Park Channel, Winthrop, dredging	\$6,250 00	\$37,967 29
Dorchester, easterly shore, dredging and survey	1,000 00	210,742 60
Harbor View, dredging	—	146 00
Hingham Harbor, dredging	6,500 00	41,595 12
Hough's Neck, Quincy, dredging	7,500 00	46,088 31
Island End River, Everett, survey	—	264 10
Jeffries Point Channel, dredging	—	4,563 93
Mystic River (near Lawrence and Wiggin Wharf), dredging	—	5,927 70
Neponset River, dredging	10,000 00	103,616 40
Old Harbor Cove, dredging	—	10,520 48
Orient Heights Channel, dredging	—	45,412 38
Pemberton Point, Hull, breakwater	60,000 00	90,520 98
Pleasant Park Yacht Club Channel, dredging	3,000 00	15,805 10
Point Allerton, Hull, sea wall	50,000 00	75,127 05
Point Shirley, Winthrop, dredging	—	3,713 37
Quincy Bay, dredging	7,150 00	71,263 17
Shirley Gut, Boston and Winthrop, dredging	—	2,110 96
South Boston, southerly shore, dredging	—	129,542 08
Stony Beach, Hull, sea wall	—	12,326 09
Town River, Quincy, survey and dredging	16,050 00	57,473 27
Weir River, Hull, dredging	45,000 00	205,336 48
Wessagussett Channel, dredging	—	815 20
Weymouth Fore River, dredging	8,250 00	69,469 09
Winthrop Harbor Channels, dredging	17,192 00	72,769 80
	<hr/>	<hr/>
	\$237,892 00	\$1,313,116 95

³ Additional amount paid by State Treasurer from Development of the Port of Boston Loan sinking fund in settlement of claims, \$17,877.73.

⁴ Contributions by Massachusetts Oil Refining Company and Bethlehem Ship Building Corporation, \$38,600.00; paid by State Treasurer for land taking, \$3,725.27.

⁵ Contribution by Merrimac Chemical Company in 1920, \$15,000.00; in 1922, \$4,182.50; contribution by Beacon Oil Company in 1920, \$50,000.00.

⁶ Expended by United States Government, \$31,000.00; contribution by Standard Oil Company of New York, \$600.00.

EXPENDITURES AND CONTRIBUTIONS FOR RIVER AND HARBOR WORK
FROM DECEMBER 1, 1930, TO NOVEMBER 30, 1931

<i>Location and Character of Work</i>	<i>Contributions</i>	<i>Expenditures</i>
Allen's Harbor, Harwich, timber fence, riprap and jetties	\$2,600 00	\$8,063 69
Barnstable Harbor, dredging	5,000 00	12,138 52
Bass River, Dennis and Yarmouth, dredging and jetties	—	5,887 39
Brant Rock, Marshfield, sea walls and riprap	104,947 06	103,997 79
Centerville River, Barnstable, dredging	4,000 00	35,810 93
Chatham, riprap	10,500 00	19,813 19
Cohasset Harbor, Cohasset, dredging and survey	9,000 00	16,371 33
Ellisville Harbor, Plymouth, excavation and dike repairs	—	513 75
Gloucester Fish Pier	—	396 91
Great Ponds, survey	—	1,687 55
Green Harbor, Marshfield, dredging	40,000 00	79,476 21
Gun Rock Point, Hull, sea wall repairs	—	319 80
Herring River, Harwich, dredging	4,000 00	45,383 82
Improvement of Rivers and Harbors, general expenses	—	3,417 79
Lagoon Pond, Tisbury and Oak Bluffs, survey	—	309 75
Lake Anthony, Oak Bluffs, jetties and dredging	10,000 00	21,880 27
Lewis Bay, Barnstable, survey and dredging	—	173 45
Little Harbor, Cohasset, survey	500 00	1,476 77
Long Beach Rockport, concrete sea wall	26,000 00	43,125 74
Manchester Harbor, Manchester, dredging	6,500 00	13,398 56
Menamsha Inlet, Chilmark and Gay Head, survey	—	105 05
New Bedford State Pier, operation and maintenance	—	4,090 56
New Bedford State Pier, construction and alterations	—	42,638 30
Plymouth Harbor, Plymouth, dredging	—	5,971 57
Plymouth Memorial Park, maintenance	—	4,713 89
Province Lands, Provincetown, reclamation	—	11,457 87
Rock Harbor, Orleans, removal of wreck	—	165 00
Rockport Harbor, Rockport	4,250 00	17,177 18
Salisbury Beach, survey	—	1,397 06
Scituate, shore protection:	37,500 00	
Cedar Point, Scituate, sea wall	—	3,853 38
First and Second Cliffs, Scituate, riprap	500 00	995 44
North Scituate, Surfside, sea wall and jetties	437 08	11,186 50
Sand Hills, Scituate, sea walls and jetties	—	16,043 74
Humarock Beach, Scituate, sea wall and jetties	—	22,493 66
Third Cliff, Scituate, riprap	—	5,022 06
General Surveys, Scituate	—	383 24
South River, Marshfield and Scituate, survey	—	724 85
Taunton River, survey	30,000 00	1,904 55
Waquoit Bay, Falmouth, dredging and jetty repairs	15,500 00	35,889 90
Water conservation	—	5,134 52
West Falmouth Harbor, removal of logs from channel		170 03
West Harwich, Harwich, jetty repairs and shore protection	2,500 00	385 00
Westport Harbor, Westport, survey and jetty repairs	—	472 62
Wild Harbor, Falmouth, dredging	—	4,777 30
Winthrop Shore, Winthrop, survey	—	10 00
Witchmere Harbor, Harwich	500 00	7,620 41
	<hr/>	<hr/>
	\$314,234 14	\$618,426 89

EXPENDITURES AND CONTRIBUTIONS FROM 1893 TO 1931, INCLUSIVE, FOR RIVER
AND HARBOR WORK, UNDER THE DIRECTION OF THE DEPARTMENT OF PUBLIC
WORKS AND ITS PREDECESSORS (EXCEPTING BOSTON HARBOR)

<i>Location and Character of Work</i>	Contribution by Municipality or Others	Total Expenditure
Acushnet River, inspection and dredging	—	\$119,792 10
Allen's Harbor, Harwich, shore protection, dredging, jetties and riprap	\$12,427 50	34,796 96
Allen's Pond, Dartmouth, survey	—	195 95
Angle Tree Monument, reservation	—	1,306 22
Annisquam River, Gloucester, dredging, removing ledges and riprap	13,250 00	171,498 69
Apponagansett Harbor and River, Dartmouth, sur- vey, dredging and stone breakwater	—	55,786 05
Barnstable Harbor, Barnstable, dredging	6,500 00	30,693 16
Bass River, Beverly, dredging	55,535 75	81,075 56
Bass River, Dennis and Yarmouth, jetties, dredging and survey	22,595 00	182,413 47
Beach Street, Scituate — See Scituate.		
Beverly Harbor, Beverly, dredging	—	50,000 00 ¹
Brant Rock, Marshfield, sea walls	111,503 66	130,425 45
Brewster, Skaket Inlet, survey	—	617 19
Buck's Creek, Chatham, jetties, survey and dredging	2,500 00	39,719 69
Buzzard's Bay, Falmouth, survey	—	166 11
Cape Poge, Edgartown, cut through beach, jetties and riprap	16,500 00	42,557 04
Cataumet Harbor — See Megansett Harbor.		
Cedar Point, Scituate — See Scituate.		
Centerville River, Barnstable, dredging	19,711 50	44,093 52
Chatham, riprap	10,500 00	19,813 19
Cohasset Harbor, Cohasset, breakwater and dredging	42,691 88	113,435 77
Concord River, Billerica — removing boulders	150 00	1,664 59
Connecticut River, investigation of navigation and surveys	—	8,878 96
Connecticut River, Agawam, protective work	—	18,814 42
Connecticut River, Chicopee, survey wall and riprap	640 00	25,789 02
Connecticut River, Hadley, protective work, diver- sion wall and survey	5,000 00	118,740 95 ²
Connecticut River, Hatfield, dikes and riprap	1,000 00	51,238 61
Connecticut River, Holyoke, dredging and protective work	1,991 29	9,253 27
Connecticut River, Holyoke, marking and lighting old piers	—	1,195 32
Connecticut River, Northampton, protective work	—	1,524 20
Connecticut River, Northfield, riprap	—	9,028 90
Connecticut River, South Hadley, wall	1,000 00	7,379 58
Connecticut River, Springfield and West Springfield, protective work	—	12,510 08 ³
Conservation of Waters — investigation	—	76,764 54
Cotuit Harbor, Barnstable, dredging, survey and bulkhead repairs	13,183 38	83,243 85
Cuttyhunk Harbor, Gosnold, jetties and dredging	9,000 00	70,754 18
Deacon's Pond Harbor — See Falmouth Inner Har- bor.		
Duxbury Bay and Harbor, dredging	27,000 00	92,653 35
East Bay, Osterville, jetties, dredging and removing scows	10,000 00	70,924 23

¹ \$50,000 expended by United States Government.

² From 1888 inclusive.

³ From 1891 inclusive.

EXPENDITURES AND CONTRIBUTIONS, ETC. — *Continued*

<i>Locality and Character of Work</i>	Contributions by Municipality or Others		Total Expenditure
Edgartown Harbor, Edgartown, survey and cut in beach	300 00		3,496 64
Ellisville Harbor, Plymouth, dredging and jetty repairs	—		20,174 18
Essex County beaches, survey	—		1,000 00
Essex River, Essex, dredging	—		76,304 33
Fall River Harbor, improvement	—		1,130 18
Falmouth Heights, Falmouth, sea wall and riprap	22,210 04		70,667 71
Falmouth Inner Harbor, dredging, jetties, wall and riprap	31,500 00		150,396 26
First and Second Cliffs, Scituate — See Scituate.			
Fresh Water Cove, Gloucester, dredging	3,300 00		17,477 53
Gay Head, survey	—		555 42
Glades, North Scituate — See Scituate.			
Gloucester Fish Pier	—		396 91
Gloucester, Western Avenue, sea wall	35,000 00		60,000 00
Gloucester Harbor, Gloucester, dredging and removing ledges	15,000 00		148,786 71
Great Head, Winthrop — See Winthrop Shore.			
Great Ponds, survey	—		18,340 55
Green Harbor, Marshfield, jetties, dredging and survey	42,500 00		158,513 16
Gun Rock Point, Hull, breakwater and sea wall repairs	16,135 41		78,259 13
Harbor Cove, Gloucester, survey and dredging	3,866 00		25,155 04
Herring Creek, Scituate, survey	—		253 76
Herring River, Harwich, jetties, dredging and fence.	36,100 00		131,384 96
Herring River, Wellfleet, dikes and ditches	10,000 00		34,509 38
Hoosac River, North Adams, excavation and survey	—		21,271 67
Housatonic River, Sheffield, survey	—		2,011 29
Hull, sea wall and jetties	8,882 06		38,485 08
Humarock Beach, Scituate — See Scituate.			
Hyannisport, Barnstable, survey and breakwater	2,500 00		65,017 76
Improvement of Rivers and Harbors, general expenses	—		39,515 52
Ipswich River, Ipswich, jetty, wall, riprap and dredging	3,800 00		59,079 55
King's Beach, Swampscott, removal of obstruction.	—		166 41
Lagoon Pond, Tisbury and Oak Bluffs, survey	—		309 75
Lake Anthony, Oak Bluffs, jetties and dredging	15,000 00		97,411 51
Lake Quannapowitt, Wakefield, investigation	—		345 32
Lake Tashmoo, Tisbury, survey	—		402 24
Lewis Bay, Barnstable, survey and dredging	18,809 29		66,804 73
Little Harbor, Cohasset, survey	500 00		1,476 77
Little Harbor, Marblehead, dredging	2,500 00		11,166 16
Little River, Gloucester, survey	—		862 93
Lobster Cove, Gloucester, dredging	4,500 00		61,603 36
Long Beach, Rockport, sea wall	26,000 00		43,125 74
Lynn Harbor, Lynn, anchorage basin, survey and dredging	5,200 00		121,609 22
Lynn Harbor and Saugus River, dredging and filling	37,500 00		163,431 53
Manchester Harbor, Manchester, survey, jetties and dredging	83,000 00		189,694 04
Mattapoissett Harbor, survey	—		255 48
Megansett Harbor, Bourne and Falmouth, dredging	12,730 00		52,116 66
Menamsha Inlet, Chilmark and Gay Head, jetties,			

* \$5,000 expended by United States Government.

EXPENDITURES AND CONTRIBUTIONS, ETC., — *Continued*

<i>Locality and Character of Work</i>	Contributions by	
	Municipality or Others	Total Expenditure
dredging, sea wall and riprap	2,700 00	117,097 16
Merrimack River, investigation	—	1,208 50
Mill River, Gloucester, survey and dredging	300 00	24,899 59
Mitchell's River, Chatham, survey and dredging	6,000 00	23,113 92
Monument Beach, Bourne, survey	—	326 40
Nahant, survey	—	82 15
Namequoit River and Pleasant Bay, dredging	5,500 00	28,529 62
Nantucket, survey of Sesachacha Pond	—	110 66
Nantucket Harbor, dredging	5,000 00	58,982 52
Nauset Harbor and Town Cove, Orleans, dredging	2,000 00	10,671 24
New Bedford Harbor, dredging	—	18,856 57
New Bedford State Pier, pier shed and dredging	13,446 74 ^s	536,771 63
New Bedford State Pier, operation and maintenance	—	57,279 11
Newburyport Harbor, survey	—	115 97
Nobscusset Harbor, Dennis, breakwater, dredging and riprap	1,950 00	41,385 22
North River, Marshfield, surveys and removing rocks	1,800 00	8,658 75
North River, Salem, survey	—	704 52
North Scituate — See Scituate.		
Oak Bluffs, removing rocks	—	594 95
Oak Bluffs, sea walls, bulkhead and jetties	52,500 00	141,077 77
Ocean Grove, Swansea, survey	—	143 23
Onset Bay, Wareham, survey and dredging	1,000 00	15,295 89
Orleans, survey	—	104 18
Palmer's Pond, Falmouth, survey	—	358 76
Pamet River, Truro, survey, dredging and repairing jetties	1,200 00	198,010 32
Paskamansett River, Dartmouth, dredging and jetty	—	5,227 68
Penikese Island, Gosnold, pile wharf and survey	—	5,192 95
Pines River, Revere and Saugus, survey	—	904 80
Pleasant Bay, Chatham	600 00	2,364 33
Plum Island River, Newbury and Newburyport, survey	—	983 31
Plymouth Harbor, dredging and removing old piling	92,794 55 ^s	324,526 92
Plymouth Memorial Park, maintenance	—	40,400 97
Point Shirley, Winthrop — See Winthrop Shore.		
Poponesset Bay, Barnstable and Mashpee, dredging	—	46,252 33
Powow River, Amesbury, dredging channel and rip- rapping wall	—	502 94
Province Lands, Provincetown	—	157,235 79
Provincetown Harbor, shore protection	75 00	28,730 81
Quamquisset Harbor, Falmouth, survey	—	710 31
Quansett Harbor, Orleans, survey and dredging	500 00	2,194 50
Red Brook Harbor, Bourne, removing pier	—	275 00
Revere, stone breakwater	—	60,397 93
Rock Harbor, Orleans, dredging	2,400 00	20,832 51
Rockport Harbor, Rockport, dredging and removing rocks	4,750 00	32,897 46
Salem Harbor, Salem, survey	—	1,509 92
Salisbury Beach, survey	—	1,397 06
Salt Pond River, Eastham, survey	—	210 11
Salter's Point, Dartmouth, breakwater	4,500 00	42,939 57
Sand Hills, Scituate — See Scituate.		
Sandwich Harbor, Sandwich, dredging channel, rip-		

^s Paid by surety company.^e \$57,000 expended under direction of United States Government.

EXPENDITURES AND CONTRIBUTIONS, ETC. — *Continued*

<i>Locality and Character of Work</i>	Contributions by		Total
	Municipality	or Others	Expenditures
rap and jetties	—	—	80,579 84
Saugus River, Lynn and Saugus	2,000	00	20,845 17
Scituate, shore protection:	37,500	00	
Beach Street, Scituate, wall and breakwater	17,333	52	34,782 50
Cedar Point, Scituate, wall and breakwater	21,446	64	41,298 70
First and Second Cliffs, Scituate, wall and riprap	2,797	92	14,048 96
Glades, North Scituate, filling and riprap	13,250	78	30,737 96
Humarock Beach, Scituate, survey, wall and jetties	37,816	38	79,772 72
North Scituate, Surfside, spur jetties	2,194	68	28,229 19
Sand Hills, Scituate, wall and jetties	4,511	26	28,667 80
Third Cliff, Scituate, riprap and survey	75,193	10	126,375 40
General Surveys, Scituage	—	—	383 24
Scituate Harbor, dredging and surveys	53,300	00	205,865 94
Scorton Harbor, Sandwich, jetty and dredging	500	00	17,774 34
Seapuit River, Barnstable, dredging	13,000	00	25,088 55
Sesuit Harbor, Dennis, jetty	1,500	00	24,555 10
Shirley Gut, survey	—	—	97 05
Sippican Harbor, Marion, survey	—	—	615 66
Smith's Cove, Gloucester, survey and dredging	3,875	00	13,466 16
South River, Marshfield and Scituate, survey	—	—	724 85
South River, Salem, dredging	3,000	00	13,462 66
South Watuppa Pond, Fall River, fenders and excavation	—	—	203 42
Stage Harbor, Chatham, dikes and survey	—	—	10,803 01
Taunton-Brockton waterway, investigation	—	—	5,278 18
Taunton River, survey and dredging	42,500	00	30,601 73
Taunton River, Boston Harbor Canal, survey	—	—	9,932 75
Taunton River, Massachusetts Bay Canal, survey	—	—	11,786 71
Third Cliff, Scituate — See Scituate.			
Vineyard Haven Harbor, repairing sea wall	2,380	50	11,945 01
Vineyard Haven Harbor, Tisbury, breakwater and dredging	1,000	00	45,518 25
Waquoit Bay, Falmouth, breakwater, wall, bulkheads and dredging	17,500	00	93,314 40
Wareham River, Wareham, survey and dredging	5,000	00	42,567 93
Warren's Cove, Plymouth, sea wall and survey	9,713	98	25,099 86
Watch Hill, Chatham, survey and riprap	—	—	14,968 75
Water Conservation — See Conservation of Waters.			
Wellfleet Harbor, Wellfleet, survey and dredging	1,500	00	17,600 29
West Bay, Barnstable and Osterville	16,128	07	114,517 57
West Falmouth Harbor, Falmouth, surveys, dredging and breakwater	11,473	75	63,520 95
West Harwich, shore protection	6,000	00	20,813 30
Westfield River, Westfield, survey and jetties	—	—	6,037 29
Westport Harbor, Westport, jetty extension and repairs	—	—	19,497 69
Wild Harbor, Falmouth, jetty and dredging	15,000	00	55,128 66
Winthrop Shore, Winthrop, sea walls and protective work	40,500	00	97,557 52
Witchmere Harbor, Harwich, jetties and dredging	3,500	00	63,415 54
Woods Hole, Great Harbor, Falmouth, dredging	1,500	00	6,968 86
Wrecks, removal from tide water	—	—	20,283 69
Yarmouthport Harbor, survey	7,000	00	95,977 37

\$1,488,444 63 \$7,542,485 09

FEDERAL APPROPRIATIONS AND EXPENDITURES

Federal appropriations and expenditures for improvement of rivers and harbors in Massachusetts from the establishment of the government to the close of the fiscal year ending June 30, 1931, are shown in the following tables furnished by the Chief of Engineers, U. S. Army: —

TABLE NO. 1. — *Localities at Present under Improvement*

(Compiled from the Annual Report of the Chief of Engineers, U. S. Army, for the fiscal year ending June 30, 1931.)

<i>Locality</i>	<i>Expenditures</i>	<i>Appropriations</i>
Newburyport Harbor	\$500,900 00	\$500,900 00
Gloucester Harbor	538,194 00	548,183 00
Beverly Harbor	246,690 41	246,690 41 ¹
Salem Harbor	107,956 57	107,956 57
Lynn Harbor	472,817 27	711,937 00
Mystic River	306,684 84	306,684 84
Boston Harbor	13,480,743 04	13,527,362 58
Dorchester Bay and Neponset River	128,176 44	128,176 44
Weymouth Fore River	641,150 00	641,150 00 ²
Weymouth Back River	27,000 00	27,000 00
Scituate Harbor	126,590 98	126,590 98
Plymouth Harbor	421,184 80	421,184 80 ³
Cape Cod Canal	11,990,934 54	12,187,555 45
Operating and care, Cape Cod Canal	828,528 56	844,000 00
Provincetown Harbor	348,062 72	348,062 72
Pollock Rip Shoals	1,314,105 57	1,332,845 68
Cross Rip Shoals, Nantucket Sound	6 67	27,000 00
Harbor of Refuge at Nantucket	694,582 83	694,582 83
New Bedford and Fairhaven Harbor	1,073,339 11	1,217,852 58
Fall River Harbor	491,777 84	664,614 47
Taunton River	206,548 88	314,329 19
	<hr/>	<hr/>
	\$33,945,975 07	\$34,924,659 54

TABLE NO. 2. — *Localities in Which Work is Not Now in Progress*

(Compiled from data furnished by the United States Treasury Department and the Chief of Engineers, U. S. Army)

<i>Locality</i>	<i>Expenditures</i>	<i>Appropriations</i>
Merrimack River	\$404,466 72	\$404,466 72
Malden River	149,950 00	149,950 00 ⁴
Sandy Bay, Cape Ann, Harbor of Refuge	1,941,478 00	1,941,478 00
Bass River	20,150 34	20,150 41
Buzzard's Bay Harbor	2,500 00	2,500 00
Canapitset Channel	5,312 54	9,800 00
Chatham Harbor	12,171 36	13,732 79
Cohasset Harbor	10,000 00	10,000 00
Duxbury Harbor	37,000 00	37,000 00
East Dennis Breakwater	7 57	1,500 00
Edgartown Harbor	25,000 00	25,000 00
Essex River	30,000 00	30,000 00
Hingham Harbor	38,316 58	39,000 00
Hyannis Harbor	221,267 07	221,267 07
Ipswich River	5,617 91	7,500 00
Kingston Harbor	8,940 09	10,000 00
Little Harbor, Woods Hole	18,000 00	18,000 00
Manchester Harbor	23,985 57	24,300 00

¹ Exclusive of \$100,000 contributed funds.

² Exclusive of \$100,000 contributed funds.

³ Exclusive of \$108,400 contributed funds.

⁴ Exclusive of \$62,000 contributed funds.

<i>Locality</i>	<i>Expenditures</i>	<i>Appropriations</i>
Marblehead Harbor	833 43	1,900 00
Martha's Vineyard Harbor	7,000 00	7,000 00
Powow River	50,940 72	51,000 00
Rockport Harbor	91,229 25	91,232 57
Town River	37,577 41	37,577 41
Vineyard Haven Harbor	55,387 35	60,000 00
Wareham Harbor	95,997 30	96,236 00
Wellfleet Harbor	11,365 57	16,000 00
Westport Harbor and River	3,000 00	3,000 00
Winthrop Harbor	9,000 00	9,000 00
Woods Hole Channel	343,599 92	344,000 00
Total	\$3,660,094 69	\$3,682,590 97

RECAPITULATION

	<i>Expenditures</i>	<i>Appropriations</i>
Total of Table No. 1	\$33,945,975 07	\$34,924,659 54
Total of Table No. 2	3,660,094 69	3,682,590 97
	\$37,606,069 76	\$38,607,250 51

EXPENDITURES ON BOSTON HARBOR AND ITS TRIBUTARIES TO JUNE 30, 1931

(The tributaries given are those now under improvement and do not include tributaries heretofore improved.)

<i>Locality</i>	<i>Expenditures</i>	<i>Appropriations</i>
Boston Harbor proper ¹	\$13,480,743 04	\$13,527,362 58
Mystic River	306,684 84	306,684 84
	\$13,787,427 88	\$13,834,047 42

¹ Including Chelsea Creek.

CONTRACTS MADE BY THE DEPARTMENT OF PUBLIC WORKS

CON-TRACT No.	Work	Contractor	Date
207	Wild Harbor, Falmouth, dredging .	Trimount Dredging Company .	May 6, 1930
237	Race Run Dike—Province Lands .	Frank H. Barry	July 15, 1930
238	Boston Harbor, dredging off India, Central and Long Wharves.	Bay State Dredging and Contracting Company.	July 15, 1930
239	Centerville River, Barnstable, dredging.	Trimount Dredging Company .	July 22, 1930
241	East Boston, dredging off Cunard Docks (Grand Junction Wharves) .	Bay State Dredging and Contracting Company.	July 15, 1930
243	Herring River, Harwich, dredging .	Trimount Dredging Company .	Aug. 26, 1930
244	East Boston, dredging adjacent to Simpson Works.	Bay State Dredging and Contracting Company.	Sept. 2, 1930
245	Commonwealth Pier 5, additions to engineering offices.	Carl S. Helrich.	Aug. 26, 1930
248	Green Harbor, Marshfield, timber fence.	Owen W. Duffy Co.	Oct. 14, 1930
249	South Boston, painting exterior of building on Grasselli Wharf and of garage under viaduct.	Maurice M. Devine	Oct. 28, 1930
250	Allens Harbor, Harwich, timber fence and riprap.	Joseph W. Nickerson	Nov. 12, 1930
251	Neponset River, dredging . . .	Bay State Dredging and Contracting Company.	Nov. 5, 1930
252	Witchmere Harbor, Harwich, dredging.	William E. Burke	Nov. 5, 1930
253	Northern Avenue, sea wall . . .	William R. Farrell	Nov. 18, 1930
254	Hough's Neck, Quincy, dredging. .	Bay State Dredging and Contracting Company.	Nov. 25, 1930
255	Coulter's Beach, Savin Hill Bay, placing sand or gravel.	Henry N. Worthington	Nov. 25, 1930
256	Pilgrim Memorial Park, Plymouth, concrete walks, etc.	Domenik Romanó.	Nov. 25, 1930

AND IN FORCE DURING THE YEAR ENDING NOV. 30, 1931

Condition of Work	Contract Prices	Amount paid during Year ending Nov. 30, 1931	Total paid to Nov. 30, 1931	Estimated Amount of Contract
Completed Dec. 15, 1930	For dredging and disposing of dredged material on shore, 57 cents per cubic yard measured in situ.	\$4,684 29	\$17,718 79	\$19,500 00
	For removing and disposing of boulders, \$20 per cubic yard.			
Completed Feb. 20, 1931	Lump sum of \$18,950.	6,064 00	18,950 00	18,950 00
Completed Dec. 23, 1930	For dredging and disposing of dredged material, 36 cents per cubic yard, scow measurement.			
	For removing and disposing of boulders, \$20 per cubic yard.	3,014 55	20,097 00	20,097 00
Completed Sept. 1, 1931	For dredging and disposing of dredged material on marsh, upland and beach, 35 cents per cubic yard, measured in place.	23,746 00	23,746 00	25,000 00
	For removing and disposing of boulders, \$10 per cubic yard.			
Completed Mar. 21, 1931	For dredging and disposing of dredged material, 44.5 cents per cubic yard, scow measurement.	6,893 12	31,979 04	31,979 04
	For removing and disposing of boulders, \$20 per cubic yard.			
Completed Jan. 10, 1931	For dredging channel and disposing of dredged material upon adjacent flats, 58 cents per cubic yard; including building dikes and removing section of lower County Bridge.	27,265 31	52,852 50	51,640 00
	For removing and disposing of boulders, \$20 per cubic yard.			
Completed Mar. 26, 1931	For dredging and disposing of dredged material, 55 cents per cubic yard, scow measurement.	16,389 34	42,752 60	42,752 60
	For removing and disposing of boulders, \$20 per cubic yard.			
Completed Dec. 19, 1930	For furnishing labor and materials and building addition to engineering offices, \$17,890.			
	For removing broken glass and furnishing and setting new wire glass, \$1.25 for each light of glass placed.	3,681 29	18,377 96	18,377 96
	For reputting Fenestra sash, 35 cents for each light of glass puttied.			
Completed Jan. 3, 1931	For each linear foot of fence measured in place, including furnishing of all labor and materials and performing of all excavations, backfilling and incidental work, \$5.50.	1,966 00	4,069 75	4,069 75
Completed Dec. 11, 1930	For furnishing labor and equipment for painting by spraying under compressed air the exterior of two buildings, the lump sum of \$595.	413 48	716 93	716 93
Completed Dec. 29, 1930	For each linear foot of fence, measured in place, including furnishing of labor and materials, \$6.	2,783 92	2,783 92	2,785 50
	For each ton of riprap furnished and placed, including all grading and incidental work, \$4.65.			
Completed Dec. 16, 1930	For dredging and disposing of dredged material, 74 cents per cubic yard, scow measurement.	1,186 22	1,186 22	1,352 00
	For removing and disposing of boulders, \$20 per cubic yard.			
Completed Dec. 10, 1930	For dredging and disposing of dredged material, 60 cents per cubic yard, scow measurement.	5,241 60	5,241 60	4,940 00
	For removing and disposing of boulders, \$20 per cubic yard.			
Completed Dec. 4, 1930	For furnishing and placing riprap along toe of sea wall, including all incidental work, \$4.73 per ton of riprap in place.	2,920 30	2,920 30	2,838 00
Completed Jan. 23, 1931	For dredging and disposing of dredged material, 49 cents per cubic yard, scow measurement.	14,987 14	14,987 14	14,720 00
	For removing and disposing of boulders, \$20 per cubic yard.			
Completed Dec. 15, 1930	For furnishing and placing sand or sand and gravel, including all incidental work, \$1.20 per cubic yard of material placed in the work.	4,106 52	4,106 52	4,106 52
Completed Dec. 15, 1930	For straight granite curbing set in place, \$2.05 per linear foot.	1,158 79	1,158 79	1,158 75
	For curved granite curbing set in place, \$2.25 per linear foot.			
	For concrete walk in place, \$2.25 per square yard.			
	For gravel walk in place, \$1.25 per square yard.			

CONTRACTS MADE BY THE DEPARTMENT OF PUBLIC WORKS

CON- TRACT No.	Work	Contractor	Date
257	Brant Rock, Marshfield, riprap . . .	Philip B. Oakman	Nov. 25, 1930
258	Staples Wharf, South Boston, repairs.	Maurice M. Devine	Dec. 2, 1930
259	Herring River, Harwich, dredging . .	Trimount Dredging Company . .	Nov. 25, 1930
260	Commonwealth Pier 5, South Boston, installation of wall outlets for elec- tric service.	Mass. Electric Construction Com- pany.	Feb. 10, 1931
261	Herring River, Harwich, dredging en- trance channel.	Trimount Dredging Company . .	Feb. 17, 1931
262	Allen's Harbor, Harwich, dredging . .	Trimount Dredging Company . .	Mar. 17, 1931
263	Green Harbor, Marshfield, dredging . .	Trimount Dredging Company . .	Apr. 28, 1931
264	Manchester Harbor, dredging	Bay State Dredging and Contracting Company.	Apr. 28, 1931
265	Lake Anthony, dredging	Bay State Dredging and Contracting Company.	Apr. 28, 1931
266	Maraspin Creek, Barnstable, dredging .	Bay State Dredging and Contracting Company.	May 5, 1931
267	Green Harbor, Marshfield, rebuilding stone jetties.	Thomas Whalen & Sons, Inc. . . .	Apr. 28, 1931
268	Commonwealth Pier 5, repairing fend- ers and platform.	Bay State Dredging and Contracting Company.	May 5, 1931
270	Rockport Harbor, dredging	Bay State Dredging and Contracting Company.	May 19, 1931
271	Winthrop Harbor, dredging near Win- throp Yacht Club.	Saybrook Dredging Company . . .	May 19, 1931
272	Cottage Park, Winthrop, dredging . .	North Atlantic Dredging Company .	May 19, 1931
273	East Bay, Barnstable, dredging	Trimount Dredging Company . . .	May 26, 1931

AND IN FORCE DURING THE YEAR ENDING NOV. 30, 1931

Condition of Work	Contract Prices	Amount paid during Year ending Nov. 30, 1931	Total paid to Nov. 30, 1931	Estimated Amount of Contract
Completed Dec. 10, 1930	For placing riprap and chips, \$3.85 per ton.	\$863 75	\$2,500 00	\$2,500 00
Completed Feb. 17, 1931	Unit prices	3,491 00	3,491 00	3,630 00
Completed Jan. 7, 1931	For dredging and disposing of dredged material on marsh and flats, 40 cents per cubic yard.	8,000 00	8,000 00	8,000 00
	For removing and disposing of boulders, \$20 per cubic yard.			
Completed Mar. 13, 1931	For furnishing and installing 65 wall outlets for electric service, \$1,130.	1,469 66	1,469 66	1,469 66
Completed Mar. 2, 1931	For dredging channel and disposing of dredged material on marsh and flats adjacent to work, including construction of necessary dikes, 30 cents per cubic yard.	7,583 40	7,583 40	7,500 00
Completed Apr. 15, 1931	For dredging channel through sand bars southerly of end of west jetty and disposing of excavated material on marsh and flats, \$1.00 per cubic yard.	4,000 00	4,000 00	4,000 00
	For dredging channel between jetties and disposing of excavated material on marsh and flats, 40 cents per cubic yard.			
Completed Oct. 5, 1931	For dredging and disposing of excavated material on land and marsh, including construction of necessary dikes, 41.4 cents per cubic yard.	34,500 28	34,500 28	31,898 00
	For removing and disposing of boulders, \$20 per cubic yard.			
Completed Aug. 25, 1931	For dredging and disposing of dredged material, 56 cents per cubic yard, scow measurement.	12,495 84	12,495 84	12,495 00
	For removing and disposing of boulders, \$20 per cubic yard.			
Completed June 24, 1931	For dredging and disposing of dredged material, 42 cents per cubic yard, scow measurement.	19,012 14	19,012 14	18,920 00
	For removing and disposing of boulders, \$20 per cubic yard.			
Completed July 3, 1931	For dredging and disposing of excavated material on marsh and flats, including the construction of necessary dikes and sluices, 40 cents per cubic yard, measured in place.	11,574 00	11,574 00	12,000 00
	For removing and disposing of boulders, \$20 per cubic yard.			
Completed July 23, 1931	For each ton of riprap or stone chips furnished and placed in completed work, \$3.20.	23,406 18	23,406 18	23,720 00
	For each linear foot of timber fence measured in place, including furnishing of all labor and materials, and performing of all excavation, backfilling and incidental work, \$6.00.			
	For each cubic yard of concrete measured in place in the completed work, including all forms, excavation and incidental work, \$14.			
Completed July 28, 1931	Unit prices	1,347 87	1,347 87	1,347 87
Completed Aug. 4, 1931	For dredging and disposing of dredged material, 50 cents per cubic yard, scow measurement.	16,088 50	16,088 50	16,088 50
	For removing and disposing of boulders, \$20 per cubic yard.			
Completed Sept. 29, 1931	For dredging and disposing of dredged material in disposal area specified, 55 cents per cubic yard measured in situ.	31,851 05	31,851 05	31,915 00
	For removing and disposing of boulders, \$15 per cubic yard.			
Completed July 12, 1931	For dredging and disposing of dredged material on the shore, 50 cents per cubic yard, measured in situ.	15,585 00	15,585 00	15,585 00
	For removing and disposing of boulders, \$20 per cubic yard.			
Completed Aug. 27, 1931	For dredging and disposing of excavated material on marsh and flats by hydraulic process, including construction of necessary dikes and sluices, 35 cents per cubic yard measured in place.	7,094 15	7,094 15	7,360 00
	For removing and disposing of boulders, \$10 per cubic yard.			

CONTRACTS MADE BY THE DEPARTMENT OF PUBLIC WORKS

CONTRACT No.	Work	Contractor	Date
274	Waquoit Bay, Falmouth and Mashpee, dredging and repairs to jetty.	Bay State Dredging and Contracting Company.	June 9, 1931
275	East Boston, Jeffries Point, dredging .	Trimount Dredging Company .	June 9, 1931
276	Chatham Shore Protection . . .	Joseph W. Nickerson . . .	June 23, 1931
277	Commonwealth Pier 5, reconstruction of concrete beams and slabs.	Gunite Construction Company *	July 7, 1931
278	Boston Inner Harbor, dredging . .	Bay State Dredging and Contracting Company.	July 7, 1931
279	New Bedford State Pier, timber platform.	Frank C. Taylor	July 14, 1931
280	New Bedford State Pier, alterations to immigration shed and concrete pavement.	P. J. McNally & Sons	July 14, 1931
281	E Street Store, timber platform . .	Klayman Construction Company .	July 15, 1931
282	Long Beach, Rockport, concrete sea wall.	George W. Nicoll Company, Inc. .	Aug. 18, 1931
283	Scituate, Sand Hills, sea wall near wreck of Pilot Boat "Columbia" .	Crowley & Downey	Aug. 4, 1931
284	Scituate, Sand Hills, sea wall and jetties at northwesterly end.	Crowley and Downey. . . .	Oct. 6, 1931
285	Cedar Point, Scituate, concrete sea wall.	Crowley and Downey	Aug. 11, 1931
286	Humarock Beach, Scituate, concrete sea wall and jetties.	Atwood-Thomas Construction Company.	Aug. 11, 1931
287	North Scituate sea walls and jetties .	Thomas Joseph McCue . . .	Aug. 18, 1931
288	Third Cliff, Scituate, riprap . . .	John P. Cavanagh	Aug. 25, 1931

AND IN FORCE DURING THE YEAR ENDING NOV. 30, 1931

Condition of Work	Contract Prices	Amount paid during Year ending Nov. 30, 1931	Total paid to Nov. 30, 1931	Estimated Amount of Contract
Completed Sept. 2, 1931	For dredging and disposing of excavated material on marsh and flats, including the construction of necessary dikes and sluices, 25 cents per cubic yard, measured in place. For removing and disposing of boulders, \$20 per cubic yard. For each ton of riprap or stone chips furnished and placed in the completed work, \$6.70.	\$33,820 67	\$33,820 67	\$33,820 67
Completed July 1, 1931	For dredging and disposing of dredged material, 69 cents per cubic yard, scow measurement. For removing and disposing of boulders, \$20 per cubic yard.	1,395 87	1,395 87	1,607 00
Completed Aug. 28, 1931	For furnishing and placing heavy stone riprap and granite chips, \$3.79 per tone of 2,000 pounds, in place.	18,757 01	18,757 01	18,950 00
Completed Nov. 18, 1931	Unit prices	10,095 36	10,095 36	12,788 00
Completed Sept. 22, 1931	For dredging and disposing of dredged material, 38.5 cents per cubic yard, scow measurement. For removing and disposing of boulders, \$20 per cubic yard.	70,093 49	70,093 49	70,093 49
Completed Nov. 23, 1931	Unit prices	41,716 33	41,716 33	48,252 50
Completed Sept. 1, 1931	For furnishing labor, materials and equipment for alterations to immigration shed, \$839. For each square yard of concrete pavement laid in driveway and approach, \$2.26 per square yard, measured in place in completed work.	2,062 79	2,062 79	2,062 79
Completed Sept. 26, 1931	Unit prices	4,287 36	4,287 36	5,343 95
Completed Nov. 15, 1931	For each cubic yard furnished and placed in the construction of the concrete sea wall, \$11.20 measured in place in the completed work	41,116 40	41,116 40	44,240 00
Completed Oct. 1, 1931	For furnishing materials and constructing sea wall, \$10.02 per cubic yard of concrete measured in the completed work. For furnishing equipment and labor, for removing timber bulkheads and the wreck of the Pilot Boat "Columbia" and the disposal of the same, the lump sum of \$400.	5,127 54	5,127 54	6,311 70
Completed Nov. 10, 1931	For furnishing 4-inch yellow pine plank, \$50. For furnishing material and constructing concrete sea wall, including all incidental work, \$9.90 for each cubic yard of concrete measured in completed work.	4,465 01	4,465 01	5,252 95
Completed Oct. 7, 1931	For furnishing materials and constructing six concrete jetties, including all incidental work, \$9.90 for each cubic yard of concrete measured in completed jetties.	3,406 89	3,406 89	3,415 50
Completed Nov. 10, 1931	For furnishing materials and constructing concrete sea wall, including all incidental work, \$9.90 for each cubic yard of concrete measured in the completed work.	21,347 04	21,347 04	25,114 16
Completed Nov. 28, 1931	For furnishing and placing 4-inch yellow pine plank for openings in concrete wall, including cost of materials, labor, and all incidental work, 10 cents for each board foot of lumber in place in the completed work. For furnishing material and constructing concrete sea walls and jetties, \$10 per cubic yard of concrete measured in place of completed work. For furnishing and placing lumber in opening in concrete wall, 5 cents for each foot board measure of lumber in place in the completed work.	9,060 26	9,060 26	10,659 13
In progress	For furnishing each ton of stone riprap and depositing it in place, including all cleaning up and incidental work, \$2.24.	3,844 08	3,844 08	4,480 00

CONTRACTS MADE BY THE DEPARTMENT OF PUBLIC WORKS

CON-TRACT No.	Work	Contractor	Date
289	Oak Bluffs, sea wall near entrance to Lake Anthony.	Joseph W. Nickerson . . .	Sept. 1, 1931
290	Marshfield, sea wall at Fieldston .	Louis B. Cadario and Sons . .	Sept. 15, 1931
291	Brant Rock, Marshfield, riprap . .	Raymond A. Bergesson . . .	Sept. 15, 1931
292	Cohasset Harbor, dredging . . .	Bay State Dredging and Contracting Company.	Sept. 8, 1931
293	Green Harbor, Marshfield, dredging .	Trimount Dredging Company .	Oct. 6, 1931
294	Pleasant Park Yacht Club, Winthrop, dredging.	Bay State Dredging and Contracting Company.	Oct. 20, 1931
295	Commonwealth Pier 1, East Boston .	Michael Solimando . . .	Oct. 27, 1931
296	Westport Harbor, repairs to stone jetty.	George W. Starbuck . . .	Nov. 3, 1931
297	Scituate Sea Walls, Sand Hills and Scituate Harbor.	Thomas Joseph McCue . . .	Oct. 27, 1931
298	Menamsha Inlet, Chilmark and Gay Head, protective work.	Merritt-Chapman & Scott Corporation.	Nov. 3, 1931
299	Hull, sea walls at Stony Beach and Pemberton, repairs and rebuilding.	Bradford Weston . . .	Nov. 10, 1931
300	Winthrop Harbor, removal of boulders from basin of Winthrop Yacht Club.	Trimount Dredging Company .	Nov. 10, 1931
301	Allens Harbor, Harwich, timber fence and riprap.	George W. Starbuck . . .	Nov. 24, 1931

AND IN FORCE DURING THE YEAR ENDING NOV. 30, 1931

Condition of Work	Contract Prices	Amount paid during Year ending Nov. 30, 1931	Total paid to Nov. 30, 1931	Estimated Amount of Contract
Completed Oct. 3, 1931	For furnishing labor and equipment and straightening existing concrete sea wall, the lump sum of \$200.	\$1,288 91	\$1,288 91	\$1,288 91
	For furnishing each bag of Portland cement used in concrete, including all form work, sand, gravel, excavation and backfilling, and all incidental work in connection with placing concrete footings and cap on the wall, \$3.33.			
In progress	For furnishing materials and constructing concrete sea wall and jetties, \$7.48 per cubic yard of concrete measured in completed work.	61,441 96	61,441 96	83,706 24
	For furnishing materials and constructing concrete apron and wing walls, the lump sum of \$1,250 for completed work.			
	For furnishing and placing heavy stone riprap, \$3 per ton of 2,000 pounds in place in completed work.			
In progress	For each ton of riprap and chips furnished and placed in completed work, including removal of remains of old timber bulkheads, storing of material and other incidental work, \$2.00.	11,101 00	11,101 00	29,096 75
Completed Oct. 19, 1931	For dredging and disposing of excavated material on marsh and flats by hydraulic process, including the construction of necessary dikes and sluices, 48 cents per cubic yard measured in place.	15,618 24	15,618 24	18,374 40
	For removing and disposing of all boulders, \$20 per cubic yard.			
Completed Nov. 14, 1931	For dredging channel and disposing of dredged material on upland and marsh out of tide water, 38 cents per cubic yard measured in place.	16,796 00	16,796 00	19,000 00
	For removing and disposing of boulders, \$20 per cubic yard.			
Completed Oct. 23, 1931	For dredging basin and disposing of the dredged material, \$1.08 per cubic yard, scow measurement.	1,274 18	1,274 18	1,748 00
	For removing and disposing of boulders, \$20 per cubic yard.			
In progress	Unit prices	-	-	2,705 40
In progress	For each ton of riprap or stone chips furnished and placed in completed work, \$5.40.	-	-	2,160 00
In progress	For furnishing material and constructing concrete top, face, footing and jetties, \$8.70 for each cubic yard of concrete measured in completed work.	5,401 72	5,401 72	8,050 00
	For furnishing $\frac{3}{4}$ " twisted steel reinforcing rods, 4 cents per pound.			
	For furnishing material and constructing and repairing light wall, \$8.70 for each cubic yard of concrete measured in completed work.			
In progress	For each ton of riprap or stone chips furnished and placed in the completed work, \$4.19.	-	-	12,777 82
	For furnishing and placing 340 cubic yards of filling, the lump sum of \$300.			
In progress	For furnishing all labor and materials and constructing new concrete sea wall, \$10 for each cubic yard of concrete measured in completed work.	-	-	2,929 94
	For furnishing labor and materials and constructing concrete footings under and in front of existing walls, \$12 for each cubic yard of concrete measured in the completed work.			
In progress	For towing equipment and crew to site of work and returning after completion of work, the lump sum of \$95.	-	-	1,200 00
	For rental of floating plant and all necessary equipment, including crew and all incidental expenses, \$89 for each day of eight hours the equipment is used on the work.			
	For each hour worked by diver and tender, including equipment, \$5 for each hour employed on the work.			
In progress	For each linear foot of fence measured in place, including the furnishing of labor and materials and the performance of all excavation, backfilling and incidental work, the sum of \$7.75.	-	-	1,281 25
	For each ton of riprap furnished and placed, including all grading and incidental work, \$4.00.			

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The Commonwealth of Massachusetts

ANNUAL REPORT

OF THE

Department of Public Works

For the Year Ending November 30, 1932



The Commonwealth of Massachusetts

THIRTEENTH ANNUAL REPORT OF THE DEPARTMENT OF PUBLIC WORKS

YEAR ENDING NOVEMBER 30, 1932

*To the Honorable Senate and House of Representatives of the
Commonwealth of Massachusetts*

In accordance with the provisions of law, I have the honor, as Commissioner of Public Works, to submit the thirteenth annual report of the Department of Public Works for the year ending November 30, 1932.

The organization of the Department, as defined in chapter 16, General Laws, as amended by chapter 297, Acts of 1927, was as follows:—

Commissioner of Public Works, FRANK E. LYMAN.

Associate Commissioner, RICHARD K. HALE.

Associate Commissioner, HERMAN A. MACDONALD.

The Department has completed during the year many of the projects inaugurated during the previous year under the provisions of the special legislation, chapter 221, Acts of 1931, which made possible the employment of many men on highway work.

The mileage of new State highways laid out during the year amounted to 57.17 miles, but there were abandoned or discontinued 16.21 miles of State highways, so that the net mileage of State highways amounted to 1,810.63 miles at the end of the year.

The Department has constructed, reconstructed and widened 85.041 miles of State highways and built 156.648 miles of roads in cooperation with cities, towns and counties under the provisions of chapter 90, General Laws, and, in addition has constructed 62.902 miles of highways under the provisions of Special Acts. Under the provisions of section 26, chapter 81, General Laws, the Department has had charge of the repair and maintenance of 8,830 miles of public ways, exclusive of State highways in 178 towns.

In accordance with the provisions of chapter 122, Acts of 1931, which provided for the construction of an office building to accommodate the activities of the Department, including the executive and engineering offices, as well as the Registry of Motor Vehicles, a contract was executed with the F. V. Warren Co., of Philadelphia, Penn., for the erection of the building. The work of construction was carried on under the supervision of the Architect, Edward T. P. Graham, of Boston. A supplementary appropriation, Chapter 21, Acts of 1932, provided sufficient additional funds so that a portion of the facing of the building is of Massachusetts granite. The Department believes that this building will satisfactorily provide for its activities and that the concentration of the various subdivisions into one location with adequate space and light will insure more efficient operation.

The engineering and clerical staff of the Department was as follows:—

Chief Engineer, ARTHUR W. DEAN.

Highway Engineer (Projects), FRANKLIN C. PILLSBURY.

Highway Engineer (Construction), RAYMOND C. COBURN.

Highway Engineer (Maintenance), GEORGE H. DELANO.

Bridge Engineer, GEORGE E. HARKNESS.

District Highway Engineers:—

District No. 1, GEORGE A. CURTIS, — Berkshire County and the towns of Worthington, Middlefield and Huntington in Hampshire County, and the towns of Chester, Montgomery, Russell, Blandford and Tolland in Hampden County.

District No. 2, H. D. PHILLIPS, — Franklin, Hampshire and Hampden Counties, with the following exceptions: three towns in Hampshire County included in District No. 1 and ten towns in Hampden County included in Districts Nos. 1 and 3.

District No. 3, JOHN A. JOHNSTON, — Worcester County and the towns Brimfield, Holland, Monson, Palmer and Wales in Hampden County.

District No. 4, F. D. SABIN, — Middlesex County.

District No. 5, JAMES E. LAWRENCE, — Essex and Suffolk Counties.

District No. 6, H. O. PARKER, — Norfolk and Bristol Counties.

District No. 7, H. C. HOLDEN, — Plymouth, Barnstable, Dukes and Nantucket Counties.

District Waterways Engineer, for Boston Harbor, — JOHN N. FERGUSON.

District Waterways Engineer, for harbors and waterways outside Boston harbor, FRANCIS L. SELLEW.

Secretary, MARY A. RILEY.

Financial Secretary, FRED FAIR.

Registry of Motor Vehicles

Registrar, MORGAN T. RYAN.

Deputy Registrar, ANTHONY A. BONZAGNI.

Assistant to the Registrar of Motor Vehicles, ALFRED W. DEVINE.

Chief Administrative Clerk, CHARLES R. GILLEY.

Chief Inspector of Motor Vehicles, ALBERT S. OLSSON.

A detailed report of the activities of the Department for the year is presented herewith.

FRANK E. LYMAN,

December 1, 1932.

Commissioner of Public Works.

SPECIAL REPORTS TO THE LEGISLATURE

The Department was authorized and directed by the Legislature to make certain investigations, and the reports thereon were made as follows:—

The construction and improvement of certain highways within and near the Metropolitan Parks District. Report made Dec. 1, 1931, by the Department of Public Works, under chapter 38, Resolves of 1931. (Senate 43 of 1932).

New bridge over Saugus River between the city of Revere and the city of Lynn. Report made Dec. 1, 1931, by the Department of Public Works, under chapter 51, Resolves of 1931. (House 478 of 1932).

Construction of a bridge over the Weymouth Fore River. Report made Dec. 1, 1931, by the Department of Public Works, under chapter 54, Resolves of 1931. (Senate 42 of 1932).

Reconstructing Fox Hill Bridge over Saugus River between Saugus and Lynn. Report made Dec. 1, 1931, by the Department of Public Works, under chapter 56, Resolves of 1931. (House 479 of 1932).

Construction of a breakwater or other protection for the shores of the town of Winthrop. Report made Dec. 1, 1931, by the Department of Public Works, under Order of Senate adopted June 1, 1931. (Senate 41 of 1932).

Proposed connecting links between existing state highways. Report made Dec. 1, 1931, by the Department of Public Works, under chapter 32, Resolves of 1931. (House 42 of 1932).

Public access to Lake Marguerite, or Simon's Pond, in the town of Sandisfield. Report made Mar. 3, 1932, by the Department of Public Works, under chapter 453, Acts of 1923. (House 1220 of 1932).

Making of surveys and preparation of plans and estimates of cost of a grade separation at the intersection of the riverway and Huntington avenue in the city of Boston. Report made Dec. 1, 1931, by the Department of Public Works, under chapter 450, Acts of 1931. (House 480 of 1932).

RECOMMENDATIONS FOR LEGISLATION

The Commissioner of Public Works presented to the State Secretary on Dec. 2, 1932, as required by law, that part of the current annual report which contains recommendations or suggestions for legislative action as follows:—

1. The Department recommends legislation to facilitate the matter of making alterations of grade crossings which are in direct continuation of a State highway or of a proposed State highway.

2. The Department also recommends legislation to facilitate the matter of laying out of new State highways across railroads already constructed, subject to approval by the Department of Public Utilities.

3. In order that the Department may have a legal check on the weight of broken stone and other material for delivery on highway contracts, the Department recommends legislation to provide that the weights and measures officials be provided with specific authority to direct a truck transporting such material to a particular scale for weighing.

4. In order to insure that the records of the Registrar of Motor Vehicles shall be used principally, in so far as the public is concerned, for their protection in recovering damages after accidents and related matters, and by governmental agencies in the collection of taxes and the enforcement of the laws, certain procedure is recommended regarding their use, and provision made that fees may be charged for information requested.

5. The Department recommends legislation to clarify the law relating to the amount of the fee to be charged for the registration of motor vehicles used by the Commonwealth or any political subdivision thereof, so that the fee of \$2 will apply to automobiles and trailers, but not to motor cycles, the fee for which is defined as \$1.50.

6. The Department believes that the law defining "way" as applied to the operation of motor vehicles should be defined as any public highway, private way laid out under authority of statute, way dedicated to public use, way under control of park commissioners, or any place to which the public has a right of access.

7. In order to avoid delay, and to simplify the procedure in promptly removing unsafe vehicles from the highway, provision should be made for the suspension as well as revocation of registrations.

8. In order to reduce the hazards of highway operations the Department recommends legislation to require rear end reflecting devices on certain trucks, a device to indicate to the driver of a vehicle whether or not headlights are functioning, and to prohibit the use of red lights in the direction in which the vehicle is facing.

APPROPRIATIONS

Chapter 170, Acts of 1932, making appropriations for the maintenance of Departments, Boards, Commissions, Institutions and certain activities of the Commonwealth, etc., is, in part, as follows:

Requirements for Extinguishing the State Debt

Item

214. For sinking fund requirements and for certain serial bonds maturing during the present year, the sum of nine hundred sixteen thousand one hundred thirty-two dollars and forty-nine cents, payable from the following accounts and funds in the following amounts:— from the surplus of sinking fund revenue, one hundred fifty-five thousand dollars; from the Highway Fund, two hundred thirty-nine thousand one hundred thirty-two dollars and fifty cents; and the remainder from the General Fund

\$916,132 49

214a. To meet one fourth of the expenditures authorized

Item

by sections one and two of chapter one hundred and twenty-two of the acts of nineteen hundred and thirty-one, and already in the main incurred, which is the proportionate part intended to be ultimately met by the commonwealth during the current fiscal year, thereby reducing by the sum hereby appropriated the amount that may be borrowed under section three of said chapter, without otherwise affecting the authority to borrow under said section three the remainder of the amount authorized to be borrowed thereunder, the sum of two million one hundred and twenty-five thousand dollars, the same to be paid from the Highway Fund 2,125,000 00

Interest on the Public Debt

215. For the payment of interest on the direct debt of the commonwealth, a sum not exceeding seven hundred ninety-eight thousand four hundred twenty-seven dollars and twenty-five cents, of which sum two hundred fifty-six thousand three hundred sixty-three dollars and seventy five cents shall be paid from the Highway Fund 798,427 25

Service of the Department of Banking and Insurance

Division of Insurance:

298. For other personal services of the division, including expenses of the board of appeal and certain other costs of supervising motor vehicle liability insurance, a sum not exceeding one hundred ninety thousand four hundred dollars, of which sum not more than thirty-five thousand dollars may be charged to the Highway Fund 190,400 00

Service of the Department of Corporations and Taxation

Corporation and Tax Divisions:

305. For the salaries of certain positions filled by the commissioner, with the approval of the governor and council, and for additional clerical and other assistance, a sum not exceeding two hundred twenty-eight thousand seven hundred dollars, of which sum not more than fifty thousand dollars, may be charged to the Highway Fund to cover the estimated cost of collection of the gasoline tax, so-called 228,700 00

Service of the Department of Public Safety

Division of State Police:

561. For the salaries of officers, including detectives, a sum not exceeding four hundred thirty-seven thousand two hundred dollars, of which sum not more than one hundred thirty-eight thousand five hundred and twenty dollars may be charged to the Highway Fund 437,200 00

563. For other necessary expenses of the uniformed division, a sum not exceeding three hundred ninety-one thousand one hundred dollars, of which sum not more than one hundred sixty-five thousand four hundred and sixty dollars may be charged to the Highway Fund 391,100 00

Item

Service of the Department of Public Works

The appropriations made in the following three items are to be paid two thirds from the Highway Fund and one third from the Port of Boston receipts:

582.	For the salaries of the commissioner and the associate commissioners, a sum not exceeding nineteen thousand five hundred dollars	19,500 00
583.	For personal services of clerks and assistants to the commissioner, a sum not exceeding nine thousand and sixty dollars	9,060 00
584.	For traveling expenses of the commissioners, a sum not exceeding two thousand and forty dollars	2,040 00
Functions of the department relating to highways (the following appropriations, except as otherwise provided, are made from the Highway Fund):		
585.	For the personal services of the chief engineer, engineers and office assistants, including certain clerks and stenographers, a sum not exceeding ninety thousand dollars	90,000 00
586.	For services other than personal, including printing pamphlet of laws and the annual report, and necessary office supplies and equipment, a sum not exceeding ten thousand five hundred dollars	10,500 00
587.	For the suppression of gypsy and brown tail moths on state highways, a sum not exceeding twelve thousand dollars	12,000 00
588.	For the construction and repair of town and county ways, a sum not exceeding one million six hundred thousand dollars	1,600,000 00
589.	For aiding towns in the repair and improvement of public ways, a sum not exceeding one million four hundred fifty thousand dollars	1,450,000 00
590.	For the maintenance and repair of state highways, including care of snow on highways, expenses of traffic signs and lights, and payment of damages caused by defects in state highways, with the approval of the attorney general; for care and repair of road-building machinery; and for the purchase and improvement of a nursery for roadside planting, a sum not exceeding four million five hundred thousand dollars	4,500,000 00
591.	For the purpose of enabling the department of public works to secure federal aid for the construction of highways, a sum not exceeding four million one hundred thousand dollars	4,100,00 00
592.	For administering the law relative to advertising signs near highways, a sum not exceeding fifteen thousand dollars, to be paid from the General Fund	15,000 00

Registration of Motor Vehicles:

593.	For personal services, a sum not exceeding nine hundred seventy-one thousand dollars, of which sum ten thousand dollars may be charged to the General Fund, and the remainder shall be paid from the Highway Fund	\$971,000 00
594.	For services other than personal, including traveling	

Item

expenses, purchase of necessary supplies and materials, including cartage and storage of the same, and for work incidental to the registration and licensing of owners and operators of motor vehicles, a sum not exceeding five hundred sixty-six thousand dollars, to be paid from the Highway Fund

566,000 00

595. For printing and other expenses necessary in connection with publicity for certain safety work, a sum not exceeding fifteen hundred dollars, to be paid from the Highway Fund

1,500 00

Special:

596. For expenditures by the department of public works, as authorized by chapter four hundred and twenty of the acts of nineteen hundred and thirty, a sum not exceeding five hundred fifty thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose and to be paid from the Highway Fund

550,000 00

Functions of the department relating to waterways and public lands:

597. For personal services of the chief engineer and assistants, a sum not exceeding fifty-two thousand dollars

52,000 00

598. For services other than personal, including printing pamphlet of laws and the annual report, and for necessary office and engineering supplies and equipment, a sum not exceeding two thousand dollars

2,000 00

599. For the care and maintenance of the province lands and of the lands acquired and structures erected by the Provincetown tercentenary commission, a sum not exceeding forty-seven hundred dollars

4,700 00

600. For the maintenance of structures, and for repairing damages along the coast line or river banks of the commonwealth, and for the removal of wrecks and other obstructions from tide waters and great ponds, a sum not exceeding twenty-two thousand five hundred dollars

22,500 00

601. For the improvement, development and protection of rivers and harbors, tide waters and foreshores within the commonwealth, as authorized by section eleven of chapter ninety-one of the General Laws, and of great ponds, a sum not exceeding seventy-five thousand dollars, and any unexpended balance of the appropriation remaining at the end of the current fiscal year may be expended in the succeeding fiscal year for the same purposes; provided, that all expenditures made for the protection of shores shall be upon condition that at least fifty per cent of the cost is covered by contributions from municipalities or other organizations and individuals, and that in the case of dredging channels for harbor improvements at least twenty-five per cent of the cost shall be so covered

75,000 00

602. For re-establishing and permanently marking certain triangulation points and sections, as required by order of the land court in accordance with

Item

	section thirty-three of chapter ninety-one of the General Laws, as amended, a sum not exceeding one thousand dollars	1,000 00
603.	For expenses of surveying certain town boundaries, by the department of public works, a sum not exceeding five hundred dollars	500 00
604.	For the supervision and operation of commonwealth pier five, including the salaries or other compensation of employees, and for the repair and replacement of equipment and other property, a sum not exceeding one hundred six thousand dollars, to be paid from the Port of Boston receipts	106,000 00
605.	For the maintenance of pier one, at East Boston, a sum not exceeding eight thousand dollars	8,000 00
606.	For the maintenance and improvement of commonwealth property, under the control of the department in connection with its functions relating to waterways and public lands, a sum not exceeding eighty-five thousand dollars, to be paid from the Port of Boston receipts	85,000 00
607.	For the operation and maintenance of the New Bedford state pier, a sum not exceeding eleven thousand four hundred dollars	11,400 00
608.	For the compensation of dumping inspectors, a sum not exceeding one thousand dollars	1,000 00
609.	For continuing the work in gauging the flow of water in the streams of the commonwealth, a sum not exceeding four thousand dollars	4,000 00
	Specials:	
610.	For dredging channels and filling flats, a sum not exceeding fifty thousand dollars, to be paid from the Port of Boston receipts and to be in addition to any amount heretofore appropriated for the purpose	50,000 00
611.	For the maintenance and repair of certain property in the town of Plymouth, a sum not exceeding thirty-eight hundred dollars	3,800 00
	The following items are to be paid from the Highway Fund, with the approval of the Metropolitan District Commission:	
633.	For maintenance of boulevards and parkways, a sum not exceeding five hundred fifty thousand dollars	550,000 00
634.	For resurfacing of boulevards and parkways, a sum not exceeding three hundred thousand dollars	300,000 00
635.	For the construction of certain boulevards by the Metropolitan district commission, as authorized by chapter four hundred and fifty of the acts of nineteen hundred and thirty-one, a sum not exceeding two hundred thousand dollars	200,000 00
636.	For the maintenance of Wellington bridge, with the approval of the metropolitan district commission, a sum not exceeding fifty-two hundred and twenty-five dollars	5,225 00

DEFICIENCIES

For deficiencies in certain appropriations of previous years, in certain items, as follows:

Department of Public Safety

Division of State Police:

For other necessary expenses of the uniformed division, the sum of twenty thousand one hundred thirty-four dollars and forty-five cents, of which sum not more than eight thousand forty-eight dollars and thirty-seven cents may be charged to the Highway Fund 20,134 45

Department of Public Works

For the maintenance and repair of state highways, including care of snow on highways, expenses of traffic signs and lights, and payment of damages caused by defects in state highways, with the approval of the attorney general, and for care and repair of road-building machinery, for the years nineteen hundred and twenty-nine and nineteen hundred and thirty, the sum of three hundred twenty-five dollars and sixty-five cents, to be paid from the Highway Fund 325 65

Chapter 307, Acts of 1932, in addition to the general appropriation act making appropriations to supplement certain items contained therein, and for certain new activities and projects, is, in part, as follows:—

Interest on the Public Debt

215. For the payment of interest on the direct debt of the commonwealth, a sum not exceeding one hundred thirty-four thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose; and sixty-five thousand dollars of this sum may be paid from the Highway Fund 134,000 00

Service of the Department of Public Works

585. For the personal services of the chief engineer, engineers and office assistants, including certain clerks and stenographers, a sum not exceeding two thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose and to be paid from the Highway Fund 2,000 00

Registration of Motor Vehicles:

593. For personal services, a sum not exceeding twelve hundred dollars, the same to be in addition to any amount heretofore appropriated for the purpose and to be paid from the Highway Fund 1,200 00

Specials:

596a. For linoleum, furnishings and equipment for the new office building for the department of public works, a sum not exceeding fifty thousand dollars, to be paid from the Highway Fund 50,000 00

596b. (This item combined with item 653a.)

596c. (This item combined with item 653b.)

596d. For the construction of a bridge over Saugus river, as authorized by chapter two hundred and forty-one of the acts of the present year, a sum not ex-

Item

	ceeding two hundred thousand dollars, to be paid from the Highway Fund and to be in anticipation of such further appropriations as are required to complete the work authorized by said chapter	200,000.00
596e. For	plans and other preliminary expenses for the construction of a bridge over Weymouth Fore river, as authorized by chapter thirty-two of the resolves of the present year, a sum not exceeding twenty-five thousand dollars, to be paid from the Highway Fund	25,000 00
596f. For	certain highway improvements in the city of Revere by the state department of public works, as authorized by chapter four hundred and forty-five of the acts of nineteen hundred and thirty-one, as amended by chapter two hundred and fifty-eight of the acts of the present year, at a cost not exceeding the total of one million three hundred and fifty-five thousand dollars, of which sum two hundred thousand dollars is hereby appropriated in anticipation of such further appropriations as are required to complete the work authorized by said chapters, to be paid from the Highway Fund. The department is hereby authorized to incur expenses from time to time, as may be required, within the sums authorized by said chapters. The appropriation for the current year is hereby allocated as follows:	
	For work authorized by section one of said chapter four hundred and forty-five	\$125,000 00
	For work authorized by section two of said chapter four hundred and forty-five	50,000 00
	For work authorized by section three of said chapter four hundred and forty-five	25,000 00
<i>Functions of the Department relating to Waterways and Public Lands:</i>		
611a. For	dredging in Quincy bay, as authorized by chapter two hundred and twenty-two of the acts of the present year, a sum not exceeding six thousand dollars, payable from the General Fund, and in addition thereto the sum of three thousand dollars to be assessed upon the cities and towns of the metropolitan district as provided by law	9,000 00
611b. For	the construction of a shed on the New Bedford state pier, as authorized by chapter two hundred and seventy-three of the acts of the present year, a sum not exceeding seven thousand dollars	7,000 00
611c. For	the construction of a sluiceway between Gooseberry Neck island and the mainland in the town of Westport, as authorized by chapter two hundred and sixty-five of the acts of the present year, a sum not exceeding seventy-five hundred dollars	7,500 00
611d. For	the construction of a breakwater along the shore in the town of Winthrop, as authorized by chapter two hundred and fifty-six of the acts of the present year, in the following amounts:—seventy-five thousand dollars from the General	

Fund, twenty-five thousand dollars from the Highway Fund, and twenty-five thousand dollars to be assessed upon the cities and towns in the metropolitan district in accordance with the provisions of law

125,000 00

Unclassified Accounts and Claims

642. For the compensation of certain public employees for injuries sustained in the course of their employment, as provided by section sixty-nine of chapter one hundred and fifty-two of the General Laws, as amended, a sum not exceeding nine thousand dollars, to be paid from the Highway Fund and to be in addition to any amount heretofore appropriated for the purpose

9,000 00

648. For the payment of claims authorized by certain resolves of the present year, a sum not exceeding fifteen thousand seven hundred eighty-two dollars and fifty-eight cents, of which sum thirty-three hundred and fifty-three dollars shall be charged to the Highway Fund. Said payments shall be certified by the comptroller of the commonwealth only upon the filing of satisfactory releases or other evidence that the payments are accepted in full compensation on the part of the commonwealth in respect thereto

15,782 58

OTHER APPROPRIATIONS

596g. For land damages and other expenses incidental to the laying out of a state highway extending from Alewife Brook parkway in the city of Cambridge through said city and certain towns, including Concord, as authorized by chapter three hundred and two of the acts of the present year, a sum not exceeding two hundred and seventy thousand dollars, to be paid from the Highway Fund and to be in anticipation of a further appropriation of two hundred and thirty thousand dollars to be made in the fiscal year nineteen hundred and thirty-three

270,000 00

633. For maintenance of boulevards and parkways, a sum not exceeding twenty-five thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose, and to be paid from the Highway Fund with the approval of the metropolitan district commission

25,000 00

Service of the Department of Public Works

For the maintenance and repair of state highways, including care of snow on highways, expenses of traffic signs and lights, and payment of damages caused by defects in state highways, with the approval of the attorney general; for care and repair of road-building machinery; and for the purchase and improvement of a nursery for roadside planting, the sum of six hundred seventy dollars and ninety-five cents, to be paid from the Highway Fund

670 95

Metropolitan District Commission

The following items are to be assessed upon the several districts in accordance with the methods fixed by law, unless otherwise provided, and are to be expended under the direction and with the approval of the metropolitan district commission:

653a.	For the reconstruction of the junction of South Border road, Forest street, and Fellsway West in the city of Medford, as authorized by chapter two hundred and seven of the acts of the present year, a sum not exceeding thirty thousand dollars, of which sum fifteen thousand dollars shall be paid from the Highway Fund	30,000 00
653b.	For the reconstruction of the existing roadway along the Nantasket beach reservation in the town of Hull, as authorized by chapter two hundred and ten of the acts of the present year, a sum not exceeding thirty thousand dollars, and the remainder shall be paid from item 634 of chapter one hundred and seventy of the acts of the present year	30,000 00

Department of Public Works

The sum authorized by chapter two hundred and forty-three of the acts of the present year to be paid to certain towns is hereby increased by the sum of twenty-eight hundred and fifty dollars, which is payable from item 589 of chapter one hundred and seventy of the acts of the present year.

A transfer in the sum of one hundred and fifty thousand dollars is hereby made from item 588 of chapter one hundred and seventy of the acts of the present year, and said sum is hereby added to item 590 of said chapter one hundred and seventy. The department of public works, in the event that certain property located on D street in South Boston is sold for commercial purposes, may construct a building to be used as a garage at an expense not exceeding one hundred thousand dollars.

FINANCIAL STATEMENTS

Summary of Income, Year Ending November 30, 1932

HIGHWAY FUND

*Section 34, Chapter 90, General Laws, as amended**(See Chapter 288, Acts of 1925.)*

Fees (for registration of motor vehicles, licenses to operate, etc.) and fines (penalties, Sundry Courts), gross receipts	\$6,409,425 22	
Gasoline tax, gross	16,942,343 49	
Contributions for highways and assessments (G. L., Ch. 81)	359,493 87	
Appropriation balances of previous years reverting	50,387 05	
Contributions and refunds	63,666 48	
Sale of old materials and buildings	3,194 46	
Reimbursement for repairs to guard rail and other property	5,927 40	
Rent of property	75 00	
		\$23,834,512 97
Less refunded receipts		362,482 67
		<hr/> \$23,472,030 30

PORT OF BOSTON FUND

(Chapter 91, General Laws)

Rents (leases and permits)	\$206,504 28	
Reimbursement for services (inspection of dumping dredged material in Boston Harbor)	2,209 17	
Use of Commonwealth Pier No. 5 (wharfage, dockage, rentals, etc.)	194,098 83	
Use of Commonwealth Pier No. 1 (rentals, etc.)	318 23	
Use of Hayward Creek Property (rentals)	16 00	
Revenue from permits for dumping dredged material at receiving basins	5,885 55	
License charges (for tidewater displacement and occupying Commonwealth tide lands) Boston Harbor	67,227 56	
Telephone pay station receipts	83 81	
Sales of land and Building D St. Garage (partial payment)	39,000 00	
Sales of Boston Harbor maps	75	
Sundries	98 12	
Coal Penalties	22 88	
Appropriation balances of previous years reverting	578 64	
		<hr/> \$516,043 82

DEPARTMENT INCOME

(Ordinary Revenue)

Reimbursement for services (heating D Street Building)	\$149 68
Sales (specifications and plans for contracts)	924 25
Interest on Bank accounts	842 36
Aircraft licenses	555 00

Reimbursement for services (inspection of dumping dredged material outside of Boston Harbor, ch. 196, Acts of 1925)	125 19	
License charges (for tidewater displacement and occupying Commonwealth tide lands) outside of Boston Harbor	1,732 99	
Certified copying charges	100 06	
Sale of Atlas sheets and miscellaneous plans	629 95	
Use of Province Lands (S. 25, C. 91, G. L.)	196 15	
Permits for advertising signs	13,598 87	
Use of New Bedford State Pier	14,460 09	
Reimbursement a/c removal of wreck	9,000 00	
		<hr/>
		\$42,314 59

IMPROVEMENT OF RIVERS AND HARBORS TRUST

(Sections 11, 29, chapter 91, General Laws)

Contributions from towns, individuals or others	\$45,200 00
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HIGHWAY TRUST

(Section 30, Chapter 81, General Laws)

Federal Aid (Reimbursement from United States Government)	2,239,234 98	
<i>Funds Contributed for Work under Special Acts</i>		
Geological Survey Trust Fund (Chapter 138, Acts of 1932). Contributions from individuals	2,520 00	
Total		<hr/>
		\$26,317,343 69

Expenditures

The expenditures by the Department under the provisions of General Laws and other acts and the appropriation acts, chapters 170 and 307, Acts of 1932, during the fiscal year ending Nov. 30, 1932, were as follows:

ADMINISTRATIVE

Commissioners, Associate Commissioners, personal services of clerks, stenographers, and commissioners' travel	\$30,155 00	
Public Works Department Building, land and services	955,959 05	
		<hr/>
		\$986,114 05

RELATING TO HIGHWAYS

<i>Personal Services</i> —Chief Engineer, clerks and stenographers	\$91,107 12	
<i>State Highways</i> —Construction (Chapter 81, G. L.)		
General Contract Work	\$2,199,899 94	
Engineering (Supervision)	676,817 04	
Rent of offices, Commonwealth Pier 5	7,200 00	
Highway Testing Laboratory	16,991 44	
Hingham—Hull (Chapter 119, Acts of 1931)	173,824 67	
		<hr/>
		3,074,733 09
<i>Maintenance and Repair of State Highways</i> (Chapter 81, General Laws)		
<i>Reconstruction of State Highways</i>		
General Contract Work	3,047,654 84	
Engineering, supervision on reconstruction	425,777 36	
		<hr/>
		3,473,432 20

Ordinary Maintenance

General Maintenance	1,517,974 63	
Engineering (supervision)	318,996 63	
Highway Testing Laboratory	11,717 90	
Care and repair of road building machinery	174,575 48	
Removal of snow from highways	429,933 53	
Roadside planting and development	69,615 86	
Traffic engineering, signs and traffic count	189,144 04	
Paint Manufacture	24,183 94	
Newburyport Bridge, Salisbury-Newburyport over Merrimack River, maintenance and operation	6,839 12	
Brightman St. Bridge, Fall River-Somerset, maintenance and operation	13,225 34	
New Bedford-Fairhaven Bridge, Acushnet River (Chapter 426, Acts of 1930)	18,176 50	
Route and detour maps	3,868 70	
Rent for offices at Commonwealth Pier 5	7,200 00	
Rent for offices at D Street	11,250 00	
Construction of D Street Garage	26,492 70	
Heating plant at D Street	1,880 20	
		2,825,074.57
<i>Construction and Repair of Town and County Ways</i>		
(Section 34, Chapter 90, General Laws)		
State's expenditures for work contracted for in cities and towns	1,447,854 60	
Engineering and expense (supervision)	376,665 36	
Rent of offices, Commonwealth Pier 5	3,600 00	
		1,828,119 96
<i>Aiding Towns in the Repair and Improvement of Public Ways</i> (Section 26, Chapter 81, General Laws, as amended.)		
State's expenditures for work contracted for in cities and towns	908,724 99	
Engineering and expense (supervision)	84,639 22	
		993,364 21
<i>Special Acts:</i>		
Expenditures under the provisions of Chapter 122, Acts of 1931		4,391,619 84
Distribution of gasoline tax to towns receiving aid under the provisions of Section 4, Chapter 122, Acts of 1931, as amended by Chapter 243, Acts of 1932		5,500,000 00
Distribution of gasoline tax to towns receiving aid under the provisions of Section 4, Chapter 122, Acts of 1931, as amended by Chapter 243, Acts of 1932 (Sec. 26, Chap. 81)		459,150 00
<i>Incidentals</i> (printing, postage, supplies, etc.)		10,297 19
<i>Advertising signs, regulation of personal services and expenses</i>		15,049 38
<i>Southern Traffic Route Construction</i> (Chapter 330 and 344, Acts of 1925 and Section 4, Chapter 369 and 398, Acts of 1926)		217 68

<i>Expenditures in the Western Counties</i> under Chapter 221, General Acts of 1915 and Chapter 572, Acts of 1920		916 18
<i>Highways in Malden, Braintree, Weymouth</i> <i>and Hingham</i>		
Hingham, Braintree and Weymouth		9,862 85
<i>Highways on Metropolitan District</i> (Chap- ter 420, Acts of 1930, as amended by Chapter 450, Acts of 1931)		
Section 1. Canton, Dedham, Wellesley, etc.	850,285 51	
Section 2. Canterbury Street, Boston	480,564 31	
Section 3. Landtaking-Neponset River, Milton	140,026 13	
Section 4. West Roxbury-Brookline Parkway	783,758 60	
Section 5. Broadway, Revere Beach Parkway-grade separation, Everett	140 00	
	<hr/>	2,254,774 55
Abolition of Grade Crossings (Chapter 417, Acts of 1930)		177,271 24
<i>Plans for New Saugus River Bridge</i> (Re- solves 51, Chapter 460, Acts of 1931)		2,419 17
<i>Study Weymouth Fore River Bridge</i> (Re- solves 54, Chapter 460, Acts of 1931)		457 60
<i>Plans for Weymouth Fore River Bridge</i> Chapter 32, Resolves of 1932)		4,320 45
<i>Construction of Saugus River Bridge</i> (Chapter 241, Acts of 1932)		4,315 64
<i>Expenditures under Chapter 258, Acts of</i> <i>1932.</i>		
Section 1. State Highway, Revere	16,579 06	
Section 2. Boston-Revere	3,128 62	
Section 3. Ocean Ave., Revere	1,511 84	
	<hr/>	21,219 52
<i>Alewife Brook Parkway Extension</i> (Chap- ter 302, Acts of 1932)		22,465 17
<i>Suppression of gypsy and brown-tail moths</i> on State Highways in cities and towns		11,825 93
<i>Total Expenditures for Highways</i>		<hr/> \$25,172,013 54

EXPENDITURES RELATING TO THE REGISTRY OF MOTOR VEHICLES

The cost of running the Registry of Motor Vehicles	\$1,518,340 68
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SUMMARY OF EXPENDITURES RELATING TO WATERWAYS

General Expenses	\$53,304 80
<i>Boston Harbor:</i>	
Maintenance and operation, Commonwealth Pier 1, East Boston	7,821 80
Maintenance and operation, Commonwealth Pier 5, South Boston	99,078 46
Maintenance of property	109,380 02
Dredging and filling	46,747 53
Streets, piers and railroads	6,224 38
Removal of hulks, East Boston (Ch. 465, Acts of 1931)	64,932 46
<i>Outside of Boston Harbor:</i>	
Improvement of rivers and harbors	79,415 77
Repairing damages to shore	26,399 21
New Bedford State Pier, operation and maintenance	10,828 29

Construction and alterations	7,361 70
Construction of steel shed (Ch. 273, Acts of 1932)	6,286 09
Expenses of province lands	4,698 79
Expenses of Plymouth property	4,248 44
Topographical survey	990 40
Stream gauging	4,000 00
Surveying state and town boundaries	324 00
Compensation for services of dumping inspectors	478 24
Chapter 407, Acts of 1931, Marshfield shore protection	84,547 84
Chapter 424, Acts of 1931, Scituate shore protection	17,326 96
Long Beach, Rockport	7,390 57
Chapter 405, Acts of 1931, Taunton River Improvement	960 22
Chapter 441, Acts of 1931, Construction of Pier, Cape Cod Canal	170,893 32
Chapter 138, Acts of 1930, Geological survey	
Trust Fund	290 10
	<hr/>
	\$813,929 39

SUMMARY OF EXPENDITURES BY DEPARTMENT FOR YEAR ENDING NOVEMBER 30, 1932

Administrative	\$986,114 05
Relating to Highways	25,172,013 54
Registry of Motor Vehicles	1,518,340 68
Relating to Waterways	813,929 39
	<hr/>
Total	\$28,490,397 66

COOPERATIVE WORK — SUPERVISION OF EXPENDITURES

The Department has supervised the expenditures during the year by cities, towns and counties, under chapter 81, General Laws, as amended, of approximately \$2,707,176.77 for cooperative work, in repairing, maintaining and improving certain public ways, and for other road work for which the towns and cities made contributions. All such work was carried out in conformity with contracts, specifications and plans approved by the Department.

RELATING TO HIGHWAYS

GENERAL STATEMENT

State Highways.—During the year ending Nov. 30, 1932, the Department laid out new State highways amounting to 57.17 miles in 30 cities and towns. Under chapter 81, General Laws, as amended by chapter 427, Acts of 1931, 16.21 miles of State highways were discontinued or abandoned. The total length of State highways at the end of the year was 1,810.63 miles.

Highways Constructed in 1932.—Construction has been completed on 12.025 miles of State highways, 156.648 miles of highways under the provisions of section 34, chapter 90, General Laws, as amended, and 62.902 miles of highways under the provisions of special acts, making a total of 231.575 miles completed during the year.

Of the above highways completed this year, the classification according to type of pavement is as follows:—30.720 miles of reinforced cement concrete; 5.604 miles of sheet type cement concrete; 3.888 miles of dual (reinforced concrete and bituminous macadam); 76.429 miles of bituminous macadam; 3.536 miles of bituminous concrete; 50.549 miles of bituminous type concrete (mixed in place); 0.625 mile of "Temperature Resisting" concrete; 40.657 miles of gravel with a bituminous treatment; 19.575 miles of gravel.

Resurfacing, Reconstruction and Widening of State Highways.—During the year 11.786 miles of State highways were widened but not re-

surfaced, and 61.230 miles were resurfaced or reconstructed and widened. In addition to this work on which the surfacing has been completed, there are several miles of road in various stages of completion which are scheduled to be completed next year.

The resurfacing or reconstruction of State highways in 1932 was divided into types as follows:—1.371 miles of reinforced cement concrete; 2.693 miles of dual type (reinforced concrete and bituminous macadam); 43.622 miles of bituminous macadam; 13.090 miles of bituminous concrete; 0.454 miles of gravel with a bituminous treatment.

Surveys, Plans, and Estimates.—During the year ending Nov. 30, 1932, preliminary surveys, plans and estimates were made as follows:

For State Highway Construction.—Preliminary surveys in 24 towns, 42.590 miles; plans in 28 towns, 51.914 miles; preliminary estimates in 26 towns, 52.538 miles; lines and grades in 40 towns, 55.003 miles; and final surveys in 44 towns, 60.307 miles.

For State Highway Reconstruction and Resurfacing.—Preliminary surveys in 21 towns, 52.335 miles; Plans in 32 towns, 55.819 miles; Preliminary estimates in 28 towns, 69.778 miles; lines and grades in 30 towns, 70.627 miles, and final surveys in 33 towns, 77.771 miles.

Under Section 34, Chapter 90, General Laws, as amended:—Preliminary surveys in 120 towns, 169.553 miles; plans in 119 towns, 166.991 miles; preliminary estimates in 110 towns, 78.588 miles; lines and grades in 114 towns, 179.859 miles; and final surveys in 65 towns, 77.398 miles.

Under the provisions of various Acts and Resolves, surveys, plans, estimates, lines and grades, and final surveys were made as follows:

Chapter 420, Acts of 1930, Section 1:—11.053 miles of lines and grades, and final surveys in 5 towns.

Chapter 420, Acts of 1930, Section 2:—2.064 miles of preliminary survey and plans, lines and grades, and final survey in 1 city.

Chapter 420, Acts of 1930, Section 3:—0.568 miles of reconnaissance survey and plans in 1 town.

Chapter 420, Acts of 1930, Section 4:—2.710 miles of lines and grades, and final survey in 1 city and 1 town.

Chapter 445, Acts of 1931, Section 1:—0.634 miles of survey and plans in 1 city; 0.919 miles of estimate and lines and grades in 1 city.

Chapter 445, Acts of 1931, Section 2:—0.344 miles of reconnaissance survey and plans in 1 city; 0.277 mile of preliminary survey and plans in 1 city; 0.645 mile of estimate in 1 city.

Chapter 445, Acts of 1931, Section 3:—0.116 mile of preliminary survey in 1 city; 0.487 mile of estimate in 1 city.

Chapter 302, Acts of 1932: 14.4 miles of survey and plans in 1 city and 4 towns.

Chapter 51, Resolves of 1931: 0.505 mile of estimates and lines and grades in 2 cities.

Chapter 32, Resolves of 1932: 0.72 mile of reconnaissance survey and plans in 1 city and 1 town.

Grade Crossing Elimination.—Chapter 417, Acts of 1930:—0.541 mile of lines and grades and final survey in 1 town.

Reconnaissance.—117 miles of survey and plans in 34 towns; 27 miles of estimate in 11 towns and 2 cities.

Chapter 90 Reconnaissance.—23 miles of surveys and plans in 10 towns.

Precise Levels have been made, covering 460 miles in 40 towns; 45 Bench Mark disks have been set in 28 towns.

Plans to accompany decrees for street railway locations on State highways have been made in 1 town.

Permits.—There were 1,991 permits issued during the year for opening or occupying State highways for various purposes.

Engineering Advice to Municipal Authorities.—The Department furnished engineering advice without charge to 47 cities and towns in accordance with the provisions of Section 1, Chapter 81, General Laws.

Approval of Specifications.—The Department approved during the year, under the provisions of section 7, chapter 44, General Laws, as amended, specifications for the construction of roads in 13 towns and cities.

Approval of Bridge Plans.—The Department approved during the year, under the provisions of chapter 313, Acts of 1923, plans for the construction of bridges in 9 towns and cities.

PETITIONS, MEETINGS AND HEARINGS

In addition to the regular weekly meetings of the Department throughout the year, numerous hearings and conferences have been held, including the annual hearings in the several counties in the Commonwealth for the open discussion of questions relating to the public ways, as required by section 1, Chapter 81, General Laws; hearings on appeals from the action taken by the Registrar of Motor Vehicles in the suspension or revocation of certain licenses to operate motor vehicles in 81 cases; on the refusal of the Registrar of Motor Vehicles to register a glider; on the matter of special regulations for motor vehicles in Revere, Milton, Framingham, Braintree, Cambridge and Springfield; on the matter of outdoor advertising in 4 towns and cities; on a petition for the relocation of street railway tracks in Worcester; on the matter of inspecting motor vehicles, trailers and school buses under the provisions of Chapter 271 of the Acts of 1932; in the matter of a geological survey under the provisions of Chapter 138 of the Acts of 1932; on a matter governing the use and operation of gliders under the provisions of Section 58, Chapter 90; and on the abolition of grade crossings in Walpole, Sharon, Belmont, Medford, and Lynn.

Petitions were received and contracts signed during the year as follows:

	Petitions	Contracts
State highways	26	52
Work under section 34, chapter 90, General Laws, as amended		327
Work under section 26, chapter 81, General Laws, as amended	179	179
Work under Special Acts		3
Miscellaneous		16
Total	205	577

STATE HIGHWAYS

PETITIONS FOR STATE HIGHWAYS

General Laws, chapter 81, section 4, as amended, provides that —

“If county commissioners, aldermen or selectmen adjudge that public necessity and convenience require that the Commonwealth lay out and take charge of a new or existing way as a highway in whole or in part, in their county, city or town, they may apply, by a written petition, to the division, requesting that said way be laid out and taken charge of by the Commonwealth.”

Petitions under the aforesaid section have been received during the year, as follows:—

SELECTMEN OF WESTWOOD: — Road extending from a point on the dividing line between the towns of Norwood and Westwood about 1,900 feet east of Ellis Station northerly, over a new location, to a point on the dividing line between the towns of Westwood and Dedham, near the Islington Branch of the New York, New Haven & Hartford Railroad. Received Dec. 5, 1931.

SELECTMEN OF WEST SPRINGFIELD: — Road locally known as Westfield Street, extending from its junction with Kings Highway southeasterly to its junction with Summit Street. Received Dec. 2, 1931.

SELECTMEN OF PALMER: — Road locally known as Thorndike Street, ex-

tending from Main Street in Depot Village northerly to Lake Junction at its intersection with the River Road. Received Dec. 14, 1931.

SELECTMEN OF EAST LONGMEADOW: — Road locally known as South Main Street, extending from its junction with Chestnut Street southerly to the Somers, Conn., line. Received Dec. 10, 1931.

SELECTMEN OF NORWOOD: — Road extending from a point on Neponset Street at its junction with the 1931 State highway layout northerly, over a new location, to a point on the dividing line between the towns of Norwood and Westwood about 1,900 feet east of Ellis Station. Received Dec. 16, 1931.

SELECTMEN OF BELCHERTOWN: — Road locally known as Parker Road, extending from the new Ware Road northwesterly to the Amherst Road. Also road locally known as Enfield Road, extending from said new Ware Road southwesterly to the Amherst Road. Received Dec. 30, 1931.

MAYOR AND ALDERMEN OF PITTSFIELD: — Road extending from a point on Lebanon Avenue near the property now or formerly of Frank Smith, southwesterly, over a new location, to a point on said Lebanon Avenue easterly of the bridge over the Boston & Albany Railroad. Received Jan. 5, 1932.

SELECTMEN OF MILTON: — Road locally known as Randolph Avenue, extending from Reedsdale Road to Highland Street. Received Jan. 7, 1932.

SELECTMEN OF BARNSTABLE: — Road extending from a point on the new State highway leading from Marstons Mills to Hyannis, near Long Pond in Centerville, to a point on Iyanough Road. Received Dec. 3, 1931.

MAYOR AND BOARD OF STREET COMMISSIONERS OF BOSTON: — Road extending from Boardman Street northeasterly, over a new location, to the dividing line between the cities of Boston and Revere. Received Apr. 6, 1932.

MAYOR AND COUNCIL BOARD OF REVERE: — Road extending from the Revere Beach Parkway at or near Stowers Court southeasterly, over a new location, to the dividing line between the cities of Revere and Boston. Received Apr. 6, 1932.

SELECTMEN OF WELLESLEY: — Road locally known as Worcester Street, extending from the dividing line between the towns of Natick and Wellesley to the dividing line between the town of Wellesley and the city of Newton. Received Apr. 15, 1932.

SELECTMEN OF WEST STOCKBRIDGE: — Road extending from State Line easterly and southerly through West Stockbridge and Williamsville to the dividing line between the towns of West Stockbridge and Great Barrington. Received May 13, 1932.

SELECTMEN OF BOURNE: — Road extending from Trading Post Corner southerly, over a new location, to a point on the Falmouth Road about 1,000 feet north of the dividing line between the towns of Bourne and Falmouth. Received July 9, 1932.

COUNTY COMMISSIONERS OF BRISTOL COUNTY: — Road in the town of Dighton, locally known as Somerset Avenue, extending from station 24 of the 1906 State Highway layout northeasterly for about 2,400 feet to the dividing line between the town of Dighton and the city of Taunton at Three Mile River. Received July 26, 1932.

SELECTMEN OF METHUEN: — Road locally known as Broadway, extending from the junction of High Street and Broadway northwesterly to the Salem, New Hampshire, line. Received July 22, 1932.

SELECTMEN OF DEDHAM: — Road extending from the dividing line between the towns of Westwood and Dedham at or near the Islington Branch of the New York, New Haven and Hartford Railroad, northerly along said Islington Branch and a new location to a point on Washington Street between Dedham Square and the bridge over the New York, New Haven & Hartford Railroad. Received Aug. 9, 1932.

SELECTMEN OF AMESBURY: — Road locally known as Merrill and Main

Streets, extending from Elm Street to the dividing line between the town of Amesbury and the city of Newburyport. Received Aug. 25, 1932.

SELECTMEN OF AMESBURY: — Road locally known as Merrill Street, extending from Elm Street to the dividing line between the towns of Amesbury and Salisbury. Received Aug. 27, 1932.

SELECTMEN OF SALISBURY: — Road locally known as Rabbit Road, Willow Street and Main Street, extending from the dividing line between the towns of Salisbury and Amesbury to the New Hampshire State line. Received Aug. 27, 1932.

SELECTMEN OF YARMOUTH: — Road locally known as Iyanough Road, extending from the dividing line between the towns of Barnstable and Yarmouth easterly to the present State highway on South Main Street. Received Sept. 13, 1932.

SELECTMEN OF BARNSTABLE: — Road extending from the 1931 State highway layout on the road from Hyannis to Marstons Mills near Long Pond in Centreville easterly, over a new location, to Iyanough Road, and thence along Iyanough Road to the dividing line between the towns of Barnstable and Yarmouth. Received Sept. 13, 1932.

SELECTMEN OF FRAMINGHAM: — Road locally known as Edgell Road, extending from Worcester Road at Framingham Centre northerly to the dividing line between the towns of Framingham and Sudbury. Received Oct. 10, 1932.

SELECTMEN OF CANTON: — Road locally known as Green Lodge Street, extending from its intersection with the new Circumferential Highway southeasterly to its intersection with Washington Street in Ponkapoag Village. Received Oct. 1, 1932.

SELECTMEN OF SOUTHBRIDGE: — Road locally known as North Woodstock Road, extending from the Connecticut State line northerly to the easterly side of East Main Street in the southeasterly part of the town of Southbridge. Received Nov. 3, 1932.

SELECTMEN OF MILLBURY: — That portion of a trunk highway from Worcester to Providence, R. I., which would pass through the town of Millbury. Received Nov. 5, 1932.

CONSTRUCTION AND RECONSTRUCTION OF STATE HIGHWAYS (Chapter 81, General Laws, as amended)

The following contracts were entered into during the year for the construction and reconstruction of State highways, and work incidental thereto, in various municipalities: —

New Bedford

Dec. 8, 1931, contract made with the Crandall Engineering Company, of Cambridge, for protecting the piers at the ends of the draw span of the Fairhaven-New Bedford Bridge. The proposal amounted to \$7,940.00. Work completed Aug. 27, 1932. Expenditure during 1932, \$66,217.60.

Littleton

Dec. 29, 1931, contract made with Greenough Construction Co., of Waltham, for constructing about 2,228 feet of State highway on King Street and about 567 feet of State highway on Forge Village Road; the surface on King Street except over the bridge consisting of bituminous macadam, the surface over the bridge consisting of bituminous concrete and the surface on Forge Village Road consisting of gravel. The proposal amounted to \$20,300.60. Work completed Aug. 20, 1932. Expenditure during 1932, \$19,440.70.

Hingham-Norwell

Dec. 29, 1931, contract made with Arute Bros., Incorporated, of New Britain, Conn., for resurfacing and widening about 11,288 feet of State highway on Whiting Street in Hingham and about 11,283 feet of State

highway on Washington Street in Norwell; the surface consisting of bituminous concrete. The proposal amounted to \$147,538.25. Work completed Sept. 2, 1932. Expenditure during 1932, \$156,227.33.

Worthington

Jan. 5, 1932, contract made with The Lane Construction Corporation, of Meriden, Conn., for constructing about 31,569 feet of State highway on Huntington Road; the surface consisting of bituminous macadam. The proposal amounted to \$197,406.60. Work completed Oct. 24, 1932. Expenditure during 1932, \$214,076.26.

Andover

Jan. 5, 1932, contract made with Patrick J. Holland, of Brockton, for reconstructing 14,220 feet of State highway on Main Street; the surface consisting of bituminous macadam between two sections of reinforced cement concrete. The proposal amounted to \$104,727.30. Work completed July 5, 1932. Expenditure during 1932, \$124,075.64.

Northborough-Shrewsbury

Jan. 5, 1932, contract made with Mario Pandolf Company, Inc., of Needham, for reconstructing about 20,201 feet of State highway on the Boston Post Road in Shrewsbury and about 6,196 feet of State highway on the same road in Northborough; the surface on about 14,960 feet of State highway in Shrewsbury consisting of bituminous macadam, and the remaining surface in Shrewsbury and Northborough consisting of bituminous macadam between two sections of reinforced cement concrete. The proposal amounted to \$225,413.60. Work completed November 18, 1932. Expenditure during 1932, \$248,369.88.

Westfield-West Springfield

Feb. 2, 1932, contract made with Fred T. Ley & Co., Inc., of Springfield, for reconstructing about 11,587 feet of State highway on Main Street and new location in Westfield and about 1,692 feet of State highway on Main Street in West Springfield; the surface, except over the viaduct, consisting of bituminous concrete. The proposal amounted to \$191,021.26. Work completed Nov. 14, 1932. Expenditure during 1932, \$162,575.81.

Westfield

Feb. 9, 1932, contract made with The Boston Bridge Works, Incorporated, of Cambridge, for constructing a steel bridge superstructure over the Westfield River at a point on Main Street; the surface over the bridge consisting of bituminous concrete. The proposal amounted to \$83,734.30. Work practically completed. Expenditure during 1932, \$72,236.70.

Shrewsbury

May 3, 1932, contract made with Ralph H. White, of Auburn, for laying and relaying Cast Iron Water Pipe on the State highway in Shrewsbury, known as the Southwest Connection. The proposal amounted to \$7,470.60. Work completed July 26, 1932. Expenditure during 1932, \$9,218.02.

Oxford

May 3, 1932, contract made with the New England Building Wrecking Company, of Chelsea, for demolishing the brick power house and moving the building materials from the premises on "Texas Corner" in the town of Oxford. The proposal amounted to \$749.00. Work completed May 18, 1932. Expenditure during 1932, \$749.00.

Waltham

May 3, 1932, contract made with Greenough Construction Co., of Waltham, for reconstructing about 2,900 feet of State highway on Weston

Street; the surface consisting of bituminous macadam. The proposal amounted to \$27,007.20. Work completed Sept. 8, 1932. Expenditure during 1932, \$34,277.30.

Belchertown-Granby

May 3, 1932, contract made with The Lane Construction Corporation, of Meriden, Conn., for constructing about 3,104 feet of State highway on Enfield Road, and about 5,080 feet of State highway on Parker Road in Belchertown, and reconstructing about 16,658 feet of State highway on Belchertown Road in Granby; the surface consisting of bituminous macadam. The proposal amounted to \$125,262.35. Work completed Oct. 20, 1932. Expenditure during 1932, \$130,133.37.

Middleborough-Rochester-Wareham

May 4, 1932, contract made with the Eastern Contracting Company, of Quincy, for resurfacing and widening about 1,840 feet of State highway on Wareham Street in Middleborough, about 4,230 feet of State highway on Tremont Street in Rochester, and about 33,311 feet of State highway on Sandusky Road in Wareham; the surface consisting of bituminous macadam. The proposal amounted to \$202,526.55. Work practically completed. Expenditure during 1932, \$162,522.59.

Whitman

May 11, 1932, contract made with the Eastern Contracting Company, of Quincy, for reconstructing about 8,925 feet of State highway on Temple Street; the surface consisting of bituminous macadam. The proposal amounted to \$58,181.55. Work completed November 16, 1932. Expenditure during 1932, \$56,350.84.

Billerica-Chelmsford

May 10, 1932, contract made with the Central Construction Company, of Lawrence, for resurfacing and widening about 13,300 feet of State highway on the Boston Road in Billerica and about 5,177 feet of State highway on Gorham Street in Chelmsford; the surface consisting of bituminous concrete. The proposal amounted to \$80,126.74. Work completed Sept. 27, 1932. Expenditure during 1932, \$97,492.51.

Auburn-Oxford

May 10, 1932, contract made with Frank & Frank Cons. Co., of Providence, R. I., for reconstructing and widening about 5,020 feet of State highway on Charlton Road in Oxford and about 3,000 feet of State highway on Southbridge Street in Auburn; the surface consisting of reinforced cement concrete and bituminous macadam. The proposal amounted to \$55,352.13. Work completed Sept. 15, 1932. Expenditure during 1932, \$66,974.83.

Edgartown-Oak Bluffs

May 17, 1932, contract made with O. W. Miller Co., Inc., of Springfield, for reconstructing a creosoted timber pile bridge and bulkheads over Sengekontacket Pond at the dividing line between the towns of Edgartown and Oak Bluffs. The proposal amounted to \$20,113.00. Work completed July 18, 1932. Expenditure during 1932, \$19,662.77.

Pittsfield

May 24, 1932, contract made with The Lane Construction Corporation, of Meriden, Conn., for constructing and reconstructing about 14,327 feet of State highway on Woodleigh Avenue and new location; the surface consisting of reinforced cement concrete and bituminous macadam. The proposal amounted to \$167,878.90. Work completed Nov. 10, 1932. Expenditure during 1932, \$162,086.06.

Stoneham

June 7, 1932, contract made with M. McDonough Co., of Saugus, for reconstructing about 3,006 feet of State highway on Main Street; the surface consisting of bituminous macadam. The proposal amounted to \$16,597.90. Work completed Aug. 12, 1932. Expenditure during 1932, \$20,719.87.

Somerset-Fall River

June 7, 1932, contract made with Burrows and Croke, of Fall River, for repairing the Brightman Street Bridge. The proposal amounted to \$6,083.00. Work completed Aug. 15, 1932. Expenditure during 1932, \$7,446.59.

Salisbury

June 14, 1932, contract made with James E. Watkins Company, Inc., of Amesbury, for widening about 1,013 feet of State highway on Beach Road; the surface consisting of bituminous macadam. The proposal amounted to \$12,647.00. Work completed Aug. 1, 1932. Expenditure during 1932, \$13,115.27.

Hingham

June 14, 1932, contract made with the National Gunitite Contracting Co., of Boston, for gunitite repairs to the bridge on Summer Street over Mill Stream. The proposal amounted to \$1,032.00. Work completed June 22, 1932. Expenditure during 1932, \$1,178.19.

Adams

June 21, 1932, contract made with the Town of Adams for reconstructing about 1,500 feet of State highway on Orchard Street; the surface consisting of bituminous macadam. The proposal amounted to \$13,809.57. Work completed Oct. 27, 1932. Expenditure during 1932, \$11,776.19.

Charlton

June 28, 1932, contract made with Perini & Ampollini, of Framingham, for reconstructing about 2,375 feet of State highway on Worcester Road; the surface consisting of bituminous macadam. The proposal amounted to \$33,460.05. Work practically completed. Expenditure during 1932, \$27,105.69.

Beverly

June 28, 1932, contract made with Welch & Moynihan Co., of Salem, for reconstructing about 10,605 feet of State highway on Cabot, Dodge and Enon Streets; the surface consisting of bituminous macadam. The proposal amounted to \$36,804.06. Work completed Sept. 2, 1932. Expenditure during 1932, \$36,743.36.

Newton-Wellesley

July 19, 1932, contract made with Coleman Bros., Incorporated, of Boston, for constructing reinforced concrete frame bridges over Quinobequin and Chestnut Streets, a steel ribbed three-hinged arch bridge with reinforced concrete floor and concrete abutments and wing walls with stone facing over Centre Street, and a steel stringer bridge with reinforced concrete floor and concrete abutments and wing walls under Parker Street, and to construct about 14,551 feet of State highway on Boylston Street, in Newton, and to construct about 2,443 feet of State highway on Worcester Street in Wellesley; the surface except over the bridges under Parker Street and over the railroad tracks in Newton consisting of reinforced cement concrete with bituminous macadam constructed on each side of a loam section but separated therefrom by bituminous concrete shoulders, and the surface over the bridge under Parker Street and over the railroad tracks consisting of bituminous concrete. The proposal

amounted to \$427,227.21. Work about one-half completed. Expenditure during 1932, \$247,595.59.

Dighton-Taunton

July 19, 1932, contract made with James H. Kerr, of Boston, for reconstructing about 1,232 feet of State highway on Somerset Avenue in Taunton and about 2,158 feet of State highway on the same road in Dighton, and constructing a reinforced concrete beam bridge over Three Mile River at the dividing line between Dighton and Taunton; the surface consisting of bituminous macadam. The proposal amounted to \$50,839.00. Work practically completed. Expenditure during 1932, \$38,472.47.

Lenox-Pittsfield

July 19, 1932, contract made with the New Haven Road Construction Co., Inc., of New Haven, Conn., for widening about 16,797 feet of State highway on the Pittsfield-Lenox Road in Lenox and about 8,181 feet of State highway on the same road in Pittsfield; the surface consisting of reinforced cement concrete. The proposal amounted to \$129,494.00. Work practically completed. Expenditure during 1932, \$110,118.24.

West Boylston-Worcester

Aug. 2, 1932, contract made with Charles E. Horne, of Millbury, for constructing and reconstructing about 5,671 feet of State highway on West Boylston Street and new location in Worcester and about 8,900 feet of State highway on the same road in West Boylston; the surface consisting of bituminous macadam. The proposal amounted to \$78,805.70. Work practically completed. Expenditure during 1932, \$62,336.29.

Tewksbury

Aug. 2, 1932, contract made with R. A. Richard & Co., Inc., of Boston, for widening a bridge and approaches on about 1,000 feet of State highway on Main Street; the surface consisting of bituminous macadam. The proposal amounted to \$6,295.00. Work practically completed. Expenditure during 1932, \$5,502.32.

Bourne-Falmouth

Aug. 9, 1932, contract made with the T. J. McCue Construction Company, of Watertown, for constructing and reconstructing about 34,100 feet of State highway in Bourne and Falmouth; the surface consisting of bituminous concrete. The proposal amounted to \$147,937.70. Work just commenced. Expenditure during 1932, \$12,935.17.

Dedham-Westwood-Needham

Aug. 16, 1932, contract made with Arute Bros., Incorporated, of Bridge-water, for constructing a steel plate girder railroad bridge over the highway in Westwood for the New York, New Haven & Hartford Railroad, constructing deck steel plate girder bridges with reinforced concrete floors in Dedham over the Circumferential Highway, High Street and Williams Street, and constructing about 7,823 feet of State highway on Neponset Street, 5,610 feet of State highway on the same road in Westwood, and about 9,000 feet of State highway on the same road in Dedham; the surface consisting of sections of reinforced cement concrete, bituminous macadam, or combinations of both. The proposal amounted to \$531,597.55. Work about one-fifth completed. Expenditure during 1932, \$120,653.01.

Wellesley

Aug. 30, 1932, contract made with Carlo Bianchi and Company, Inc., of Framingham, for constructing a reinforced concrete rigid frame bridge

over West Road, and constructing about 12,000 feet of State highway on Worcester Street; the surface consisting of reinforced cement concrete with bituminous macadam constructed on each side of a loam section but separated therefrom by bituminous concrete shoulders. The proposal amounted to \$233,099.60. Work about one-sixth completed. Expenditure during 1932, \$24,391.43.

West Newbury

Aug. 30, 1932, contract made with Patrick J. Holland, of Brockton, for reconstructing about 13,876 feet of State highway on Main Street; the surface consisting of bituminous macadam. The proposal amounted to \$56,709.20. Work completed Nov. 21, 1932. Expenditure during 1932, \$42,235.21.

Blackstone-Millville-Uxbridge

Aug. 30, 1932, contract made with John F. Kennedy & Company, of Cambridge, for resurfacing and widening about 23,527 feet of State highway on Main Street in Blackstone and Millville and on Millville Road in Uxbridge; the surface consisting of bituminous macadam. The proposal amounted to \$53,644.96. Work about one-third completed. Expenditure during 1932, \$17,019.56.

Hingham-Cohasset

Sept. 6, 1932, contract made with V. Barletta Co., of Boston, for constructing a steel stringer bridge over the tracks of the New York, New Haven & Hartford Railroad Company and a reinforced concrete slab bridge over Weir River in Hingham, and constructing about 16,632 feet of State highway on new location in Hingham and Cohasset; the surface except over the bridge over the railroad tracks and on the traffic circle consisting of bituminous macadam, the surface over the bridge over the railroad tracks consisting of bituminous concrete, and the surface on the traffic circle consisting of concrete. The proposal amounted to \$246,603.33. Work about one-sixth completed. Expenditure during 1932, \$59,628.49.

Wellesley

Sept. 6, 1932, contract made with the State Construction Co., Inc., of Boston, for constructing a steel stringer bridge under Cedar Street and a reinforced concrete slab bridge over Rosemary Brook, and constructing about 7,183 feet of State highway on Worcester Street; the surface except over the bridge over Rosemary Brook consisting of reinforced cement concrete with bituminous macadam constructed on each side of a loam section but separated therefrom by bituminous concrete shoulders, and the surface over the bridge over Rosemary Brook consisting of bituminous concrete. The proposal amounted to \$178,179.40. Work about one-third completed. Expenditure during 1932, \$21,324.93.

Belchertown

Sept. 6, 1932, contract made with the Rome Construction Company, of Quincy, for reconstructing about 14,868 feet of State highway on Granby Road; the surface consisting of bituminous macadam. The proposal amounted to \$59,506.13. Work about one-fifth completed. Expenditure during 1932, \$12,082.55.

Dalton-Sandisfield-Tolland-Sheffield-Lee-North Adams

Sept. 6, 1932, contract made with Stephen Carson, of Cambridge, for cleaning and painting seven bridges in Dalton, Sandisfield, Tolland, Sheffield, Lee and North Adams. The proposal amounted to \$850.00. Work practically completed. Expenditure during 1932, \$722.50.

Lakeville-Middleborough-Raynham-Taunton

Sept. 6, 1932, contract made with the Eastern Contracting Company, of Quincy, for constructing about 7,360 feet of State highway on Dean Street and new location in Taunton, about 18,967 feet of State highway on new location in Raynham, about 2,475 feet of State highway on new location in Lakeville, and about 4,687 feet of State highway on new location in Middleborough; the surface consisting of sections of bituminous macadam between two sections of reinforced cement concrete, sections of bituminous macadam full width, and sections of reinforced cement concrete full width. The proposal amounted to \$350,333.80. Work just commenced.

Egremont

Sept. 13, 1932, contract made with John M. Kelly Co., Inc., of Boston, for widening a bridge and approaches in the town of Egremont; the surface consisting of bituminous macadam. The proposal amounted to \$5,286.25. Work practically completed. Expenditure during 1932, \$3,835.06.

Ipswich

Oct. 4, 1932, contract made with the Greenough Construction Co., of Waltham, for reconstructing about 10,991 feet of State highway on High Street; the surface consisting of bituminous macadam. The proposal amounted to \$42,572.65. Work about one-fourth completed. Expenditure during 1932, \$12,932.59.

Oakham-Rutland

Oct. 4, 1932, contract made with the Greenough Construction Co., of Waltham, for reconstructing about 14,840 feet of State highway on Worcester Road in Oakham and about 4,400 feet of State highway on the same road in Rutland; the surface consisting of bituminous macadam. The proposal amounted to \$68,862.50. Work just commenced. Expenditure during 1932, \$8,417.29.

Wellesley

Oct. 4, 1932, contract made with The Boston Bridge Works, Incorporated, of Cambridge, for constructing steel bridge superstructures over the Boston & Albany Railroad, under Washington Street, and on Cliff Road over the Boston & Albany Railroad. The proposal amounted to \$48,598.51. Work not as yet commenced.

Wellesley

Oct. 4, 1932, contract made with Simpson Bros., Corporation, of Boston, for constructing about 5,850 feet of State highway on Worcester Street; the surface consisting of reinforced cement concrete with bituminous macadam constructed on each side of a loam section but separated therefrom by bituminous concrete shoulders except over the bridges at Washington Street and Cliff Road, and the surface over the bridges at Washington Street and Cliff Road consisting of bituminous concrete. The proposal amounted to \$387,735.93. Work just commenced. Expenditure during 1932, \$18,322.00.

Lee-Stockbridge

Oct. 11, 1932, contract made with the Crane Construction Company, of Boston, for reconstructing about 5,614 feet of State highway on Main St., in Stockbridge and about 5,000 feet of State highway on the same road in Lee; the surface consisting of bituminous macadam. Work just commenced. Expenditure during 1932, \$6,810.40. The proposal amounted to \$51,425.70.

Hancock-Pittsfield

Oct. 11, 1932, contract made with The Lane Construction Corporation, of Meriden, Conn., for reconstructing about 20,627 feet of State highway in Hancock and Pittsfield; the surface consisting of reinforced cement concrete. The proposal amounted to \$186,537.06. Work just commenced. Expenditure during 1932, \$29,084.68.

West Springfield

Oct. 18, 1932, contract made with Fred T. Ley & Co., Inc., of Springfield, for widening about 2,900 feet of State highway on Main Street; the surface consisting of bituminous macadam. The proposal amounted to \$3,575.00. Work completed Nov. 15, 1932. Expenditure during 1932, \$2,647.81.

Amesbury-Salisbury

Oct. 18, 1932, contract made with G. Rotondi & Son, of Melrose, for constructing about 780 feet of State highway on Rabbit Road and Main Street in Amesbury and about 12,945 feet of State highway on Main Street in Salisbury; the surface consisting of bituminous macadam. The proposal amounted to \$57,601.26. Work just commenced. Expenditure during 1932, \$3,932.35.

Revere

Nov. 1, 1922, contract made with Joseph F. Cavanagh, of Boston, for reconstructing a concrete culvert on Bennington Street. The proposal amounted to \$7,659.00. Work just commenced. Expenditure during 1932, \$1,556.12.

West Newbury

Nov. 1, 1932 contract made with M. McDonough Co., of Saugus, for reconstructing about 13,025 feet of State highway on Main Street; the surface consisting of bituminous macadam. The proposal amounted to \$46,048.62. Work just commenced. Expenditure during 1932, \$2,413.12.

Barnstable-Yarmouth

Nov. 1, 1932, contract made with Michael F. Roach & Sons, Inc., of East Bridgewater, for constructing about 19,275 feet of State highway on Iyannough Road and new location in Barnstable and Yarmouth; the surface consisting of bituminous concrete. The proposal amounted to \$80,267.95. Work not yet commenced.

EXPENDITURES FOR THE CONSTRUCTION OF STATE HIGHWAYS

The expenditures for the construction of State highways in various Counties during the year were:—

Barnstable, \$43,051.48	Hampshire, \$339,891.83
Berkshire, \$145,188.03	Middlesex, \$591,766.45
Bristol, \$40,688.06	Norfolk, \$556,031.39
Essex, \$66,195.23	Plymouth, \$240,885.39
Franklin, \$134,787.63	Suffolk, \$262,165.05
Hampden, \$46,775.52	Worcester, \$433,482.36
	Total, \$2,900,908.42

Details of the foregoing expenditures follow:—

Barnstable County.—Barnstable, \$24,751.63; Bourne, \$18,288.77; Sandwich, \$.99; Yarmouth, \$10.09.

Berkshire County.—Hinsdale, \$20,462.89; Pittsfield, \$124,711.10; Williamstown, \$14.04.

Bristol County.—Attleboro, \$2,506.34; North Attleborough, \$16,765.71; Raynham, \$1,250.49; Seekonk, \$18,915.04; Taunton, \$1,250.48.

Essex County.—Amesbury, \$3,738.37; Merrimac, \$2,641.28; North Andover, \$46,201.00; Rowley, \$8,063.84; Salisbury, \$5,550.74.

Franklin County.—Ashfield, \$26,723.61; Bernardston, \$9,583.25; Charlemont, \$7,749.54; Conway, \$25,868.34; Deerfield, \$31,270.60; Greenfield, \$24,166.19; Orange, \$9,426.10.

Hampden County.—Chester, \$27,213.62; Monson, \$317.50; Palmer, \$19,244.40.

Hampshire County.—Belchertown, \$79,955.11; Easthampton, \$1,517.07; Huntington, \$14,133.21; Worthington, \$244,286.44.

Middlesex County.—Newton, \$446,706.59; North Reading, \$732.31; Reading, \$3,749.63; Tyngsborough, \$68,469.44; Waltham, \$5,243.13; Weston, \$66,865.35.

Norfolk County.—Cohasset, \$6,112.69; Dedham, \$119,185.59; Foxborough, \$2,438.81; Milton, \$14,986.05; Norwood, \$66,021.08; Plainville, \$52,753.34; Randolph, \$81,678.54; Wellesley, \$130,911.21; Westwood, \$34,878.41; Wrentham, \$47,065.67.

Plymouth County.—Abington, \$3,097.01; Bridgewater, \$1,039.89; Brockton, \$9,565.65; Duxbury, \$55,453.73; Hingham, \$75,272.35; Kingston, \$25,923.97; Lakeville, \$1,250.49; Middleborough, \$55,335.71; Pembroke, \$13,946.59.

Suffolk County.—Boston, \$89,630.95; Revere, \$172,534.10.

Worcester County.—Athol, \$8,173.55; Dudley, \$97.95; Hopedale, \$22,420.84; Mendon, \$18,171.88; Milford, \$42,693.10; Northborough, \$4,222.84; Shrewsbury, \$87,901.06; Southborough, \$83,408.16; Southbridge, \$49.08; West Boylston, \$59,383.55; Westborough, \$98,084.20; Worcester, \$8,876.15.

EXPENDITURES UNDER THE PROVISIONS OF CHAPTER 119, ACTS OF 1931:

Hingham, \$69,268.95

Hull, \$104,555.72

EXPENDITURES UNDER THE PROVISIONS OF CHAPTER 122, ACTS OF 1931

For State Highway Construction

Auburn—Worcester	\$340,852.26	Northborough—Shrews-	
Erving	80,007.24	bury	\$189,585.20
Erving—Gill	237,225.58	Sharon—Norwood—	
Foxborough—Sharon—		Walpole	380,760.42
Walpole—Wrentham	304,532.27	Uxbridge (Ironstone	
Framingham—Natick	794,526.66	St.)	255,817.67
Framingham—Southbor-		Uxbridge (Millville	
ough	207,123.00	Rd.)	45,084.43
Gill—Erving	33,449.30	Williamstown	79,884.48
Gill—Greenfield	252,364.30	Worcester—Shrews-	
Lakeville—Middle-		bury	490,824.80
borough	240,567.46		
Millbury—Worcester	459,014.77		\$4,391,619.84

MAINTENANCE AND REPAIR OF STATE HIGHWAYS

(Section 13, Chapter 81, General Laws). The expenditures during the year in various counties were:—

Barnstable, \$128,108.37	Hampshire, \$217,728.61
Berkshire, \$670,447.51	Middlesex, \$748,102.09
Bristol, \$400,119.88	Nantucket, \$271.93
Dukes, \$34,291.77	Norfolk, \$239,050.23
Essex, \$919,323.18	Plymouth, \$669,443.27
Franklin, \$103,514.31	Suffolk, \$20,176.45
Hampden, \$462,113.77	Worcester, \$996,255.27
	Total, \$5,608,946.64

Details of the foregoing expenditures follow:—

Barnstable County.—Barnstable, \$67,618.42; Bourne, \$10,286.65; Brewster, \$3,753.63; Chatham, \$4,646.30; Dennis, \$2,645.30; Eastham, \$1,981.28; Falmouth, \$6,004.67; Harwich, \$3,512.36; Mashpee, \$3,721.98;

Orleans, \$1,831.39; Provincetown, \$3,625.50; Sandwich, \$8,897.24; Truro, \$4,339.26; Wellfleet, \$2,178.69; Yarmouth, \$3,065.70.

Berkshire County.—Adams, \$17,032.48; Becket, \$75,614.66; Cheshire, \$9,566.07; Clarksburg, \$3,960.67; Dalton, \$3,196.37; Egremont, \$113,-776.04; Florida, \$11,502.43; Great Barrington, \$15,821.65; Hancock, \$39,921.39; Hinsdale, \$4,070.51; Lanesboro, \$10,133.78; Lee, \$22,413.56; Lenox, \$105,493.77; New Ashford, \$1,520.65; New Marlborough, \$153.-31; North Adams, \$10,994.98; Otis, \$3,938.70; Pittsfield, \$167,859.98; Richmond, \$1,170.83; Sandisfield, \$5,327.31; Savoy, \$1,920.02; Sheffield, \$18,997.72; Stockbridge, \$3,249.31; Washington, \$3,820.42; West Stockbridge, \$191.59; Williamstown, \$14,532.20; Windsor, \$4,267.11.

Bristol County.—Acushnet, \$2,169.42; Attleboro, \$2,649.68; Berkley, \$3,124.36; Dartmouth, \$4,132.02; Dighton, \$44,587.65; Easton, \$16,-682.51; Fairhaven, \$1,637.21; Fall River, \$4,810.63; Freetown, \$6,268.51; Mansfield, \$3,368.70; New Bedford, \$94,316.36; Norton, \$25,072.67; North Attleborough, \$4,406.38; Raynham, \$13,920.80; Rehoboth, \$9,575.-31; Seekonk, \$41,908.71; Somerset, \$37,162.25; Swansea, \$32,610.48; Taunton, \$39,076.85; Westport, \$12,639.38.

Dukes County.—Chilmark, \$5,234.49; Edgartown, \$14,346.63; Gay Head, \$860.25; Oak Bluffs, \$3,833.14; Tisbury, \$860.78; West Tisbury, \$9,156.48.

Essex County.—Amesbury, \$8,186.61; Andover, \$194,361.98; Beverly, \$53,580.79; Danvers, \$7,947.69; Essex, \$4,316.25; Gloucester, \$15,229.29; Groveland, \$619.22; Hamilton, \$6,646.73; Haverhill, \$16,552.40; Ipswich, \$70,992.68; Lawrence, \$8,614.58; Lynn, \$2,868.80; Lynnfield, \$14,-244.81; Merrimac, \$4,176.99; Methuen, \$47,753.56; Middleton, \$3,098.07; Newbury, \$28,770.42; Newburyport, \$933.87; North Andover, \$20,651.74; Peabody, \$9,352.15; Rockport, \$1,348.91; Rowley, \$38,719.50; Salem, \$109,691.58; Salisbury, \$81,305.77; Saugus, \$39,040.01; Swampscott, \$48,217.64; Topsfield, \$5,470.57; Wenham, \$17,000.27; West Newbury, \$59,630.30.

Franklin County.—Ashfield, \$6,087.11; Bernardston, \$3,265.97; Buckland, \$2,302.19; Charlemont, \$23,308.53; Colrain, \$1,015.48; Conway, \$5,493.45; Deerfield, \$8,463.43; Erving, \$9,045.37; Gill, \$165.57; Greenfield, \$12,122.90; Montague, \$9,220.54; Northfield, \$4,725.72; Orange, \$3,765.57; Shelburne, \$8,643.17; Sunderland, \$3,639.44; Whately, \$2,-249.87.

Hampden County.—Agawam, \$17,806.12; Blandford, \$4,901.25; Brimfield, \$4,657.10; Chester, \$18,775.43; Chicopee, \$3,647.91; East Longmeadow, \$749.53; Holland, \$22.59; Holyoke, \$2,926.64; Monson, \$12,-954.16; Palmer, \$23,220.08; Russell, \$22,765.59; Southwick, \$4,493.48; Tolland, \$144.76; Wales, \$1,897.60; Westfield, \$324,544.84; West Springfield, \$14,567.58; Wilbraham, \$4,039.11.

Hampshire County.—Amherst, \$4,828.18; Belchertown, \$17,675.82; Cummington, \$12,258.65; Easthampton, \$2,245.94; Goshen, \$7,315.25; Granby, \$91,041.22; Hadley, \$2,914.13; Hatfield, \$12,813.82; Huntington, \$21,517.33; Northampton, \$6,353.83; Southampton, \$8,896.18; South Hadley, \$15,332.17; Ware, \$9,396.88; Williamsburg, \$4,967.48; Worthington, \$171.73.

Middlesex County.—Acton, \$8,353.07; Arlington, \$3,658.66; Ashby, \$50,685.74; Ashland, \$2,932.92; Ayer, \$2,045.22; Bedford, \$12,679.56; Billerica, \$88,031.68; Boxboro, \$2,204.50; Burlington, \$5,915.81; Chelmsford, \$33,178.83; Concord, \$6,129.67; Dracut, \$10,444.53; Framingham, \$12,045.83; Groton, \$28,259.03; Holliston, \$6,187.00; Hudson, \$1,709.90; Lexington, \$14,955.31; Lincoln, \$3,941.07; Littleton, \$5,077.14; Lowell, \$6,558.76; Malden, \$15.97; Marlboro, \$74,139.78; Medford, \$4,662.10; Melrose, \$368.89; Natick, \$2,850.12; Newton, \$863.41; North Reading, \$50,968.60; Pepperell, \$19,746.08; Reading, \$48,104.01; Shirley, \$5,071.19; Somerville, \$1,754.03; Stoneham, \$29,309.12; Sudbury, \$22,890.26; Tewksbury, \$13,039.50; Townsend, \$53,401.66; Tyngsboro, \$16,788.28; Waltham,

\$35,158.68; Watertown, \$512.21; Wayland, \$7,945.01; Westford, \$4,547.58; Weston, \$28,973.64; Wilmington, \$8,662.80; Winchester, \$2,545.00; Woburn, \$10,789.94.

Nantucket County.—Nantucket, \$271.93.

Norfolk County.—Avon, \$2,048.27; Bellingham, \$5,758.68; Braintree, \$18,273.97; Canton, \$7,981.05; Cohasset, \$2,022.36; Dedham, \$2,265.34; Dover, \$1,054.41; Foxboro, \$7,405.72; Franklin, \$1,166.84; Holbrook, \$25,904.59; Milton, \$9,815.14; Needham, \$975.10; Norfolk, \$883.58; Norwood, \$5,144.47; Plainville, \$8,203.07; Quincy, \$18,013.07; Randolph, \$44,606.56; Sharon, \$714.14; Stoughton, \$3,330.61; Walpole, \$9,519.57; Wellesley, \$784.48; Westwood, \$3,395.94; Weymouth, \$48,326.12; Wrentham, \$11,457.15.

Plymouth County.—Abington, \$53,915.26; Bridgewater, \$2,351.33; Brockton, \$7,978.14; Duxbury, \$19,636.81; East Bridgewater, \$1,249.61; Hanover, \$2,716.49; Hingham, \$111,801.47; Hull, \$319.94; Kingston, \$2,086.47; Lakeville, \$7,487.09; Marion, \$6,151.54; Marshfield, \$6,000.34; Mattapoisett, \$4,008.50; Middleboro, \$20,769.02; Norwell, \$100,171.25; Pembroke, \$25,587.50; Plymouth, \$8,138.62; Rochester, \$15,590.29; Rockland, \$725.57; Scituate, \$2,592.52; Wareham, \$195,124.19; West Bridgewater, \$967.90; Whitman, \$74,073.42.

Suffolk County.—Boston, \$8,089.72; Chelsea, \$780.60; Revere, \$11,306.13.

Worcester County.—Ashburnham, \$6,617.68; Athol, \$2,547.96; Auburn, \$31,448.28; Barre, \$4,310.32; Blackstone, \$13,862.24; Brookfield, \$1,149.62; Charlton, \$103,451.99; Douglas, \$488.52; Dudley, \$2,479.64; East Brookfield, \$1,953.14; Fitchburg, \$5,768.51; Gardner, \$5,746.16; Grafton, \$7,104.30; Hardwick, \$459.10; Harvard, \$2,911.92; Holden, \$6,246.09; Hopedale, \$920.82; Lancaster, \$261.34; Leicester, \$4,792.75; Leominster, \$2,850.95; Lunenburg, \$5,847.94; Mendon, \$4,072.83; Milford, \$2,564.23; Millbury, \$1,201.65; Millville, \$1,324.13; New Braintree, \$122.00; North Brookfield, \$3,030.24; Northboro, \$174,347.60; Northbridge, \$6,708.13; Oakham, \$12,768.25; Oxford, \$74,957.53; Paxton, \$3,330.69; Petersham, \$4,360.69; Phillipston, \$1,217.87; Princeton, \$4,701.76; Rutland, \$12,041.32; Shrewsbury, \$299,990.19; Southboro, \$21,483.26; Southbridge, \$20,743.18; Spencer, \$1,349.66; Sterling, \$5,197.55; Sturbridge, \$37,537.47; Sutton, \$3,326.56; Templeton, \$5,846.21; Upton, \$2,826.68; Uxbridge, \$13,154.79; Warren, \$4,866.38; Webster, \$1,168.52; West Boylston, \$2,648.17; West Brookfield, \$1,474.37; Westboro, \$18,946.55; Westminster, \$5,575.80; Winchendon, \$5,541.90; Worcester, \$26,609.84.

Miscellaneous expenditures are as follows:—

Truck repairs	\$18,116 14	
Truck operation	3,788 20	
Truck plow repairs	21,614 15	
Tractor repairs	16,715 51	
Tractor operation	3,100 57	
Tractor plow repairs	17,778 38	
Snow fence	902 40	
Expenditures under towns	347,918 18	
		<hr/>
		\$429,933 53
Warning signs	32,712 11	
Direction signs	70,425 39	
Control signals	60,087 29	
Traffic survey	23,129 83	
Traffic accidents	17 80	
Traffic permits	2,771 62	
		<hr/>
		189,144 04
Somerset Bridge	13,225 34	
Newburyport Bridge	6,839 12	
Fairhaven—New Bedford Bridge	18,176 50	
		<hr/>
		38,240 96

P. D. 54	31
Detour Bulletins	3,868 70
Construction of D St. Garage	26,492 70
Heating Plant at D St. Garage	1,880 20
Total of miscellaneous expenditures	\$689,560 13

REMOVAL OF SNOW AND ICE FROM STATE HIGHWAYS

The authority of the Department relative to the removal of snow and ice from State highways has been provided by section 19, chapter 81, General Laws, as amended.

The cooperation of the Department with officers of cities, towns and counties, in keeping open and reasonably passable for vehicles during the winter months such highways as may be selected by the Department is provided for in section 11, chapter 84, General Laws, as amended.

In accordance with the provisions of these laws, the Department selected 1,530 miles of highways on the principal routes of travel, 1,393 miles of which are State highways and 137 miles town highways.

The work of snow removal on these routes is performed in a large part by the trucks and tractors owned and operated by the Department, but certain towns and cities, by agreement with the Department, perform part of the work of snow removal on the portions of the routes within their limits. All of this work is done under the direction and supervision of the Department.

The expenditures by the Department for snow removal during the year under the provisions of both the above-mentioned laws amounted to a total of \$429,933.52, which includes the cost of maintenance and repair of the equipment, actual cost of plowing and purchase of materials, such as calcium chloride and sand for use on icy conditions of the road surfaces.

UNIFORM TRAFFIC SIGNS, LIGHTS, MARKINGS, SIGNAL SYSTEMS AND REGULATIONS

Authority and jurisdiction relating to the erection of traffic signs, lights, markings, signal systems and regulations on highways within the Commonwealth was placed in the Department of Public Works by chapter 357, of the Acts of 1928. The Department is thereby enabled to insure that all traffic control signals to be erected by the municipalities shall conform to standards adopted by the Department and cooperates with the cities and towns for the purpose of properly locating and operating such signals. All through ways desired by the municipalities must first be approved by the Department before such may become effective.

In order to secure uniformity in the matter of traffic control, the Department has issued three bulletins. These bulletins are as follows: Bulletin No. 1, "Recommendations and Requirements relating to Through Ways"; Bulletin No. 2, "A Standard Code for Traffic Signal Installation and Operation"; Bulletin No. 3, "A Standard Code for Traffic Signs, Warning Beacons and Islands." These present the standards which are required to be met by the cities and towns of the State for the installation and maintenance of traffic signs, signals and devices for the control of traffic.

TRAFFIC CONTROL SIGNALS AND REGULATIONS APPROVED

During the year the Department has issued permits to cities and towns for the following traffic control features:

	In 1932	Previously	Total to date
Traffic Signals, at intersections	69	676	745
Traffic Beacons (11 cancellations)	47	178	214
Through Ways (4 cancellations)	9	101	106
Traffic Signs and Markings (1 cancellation)	38	129	166
Traffic Rules and Regulations	80	188	268
Isolated Stop Signs	67	38	105

DIRECTION SIGNS, ROUTE MARKERS, WARNING SIGNS AND TRAFFIC CONTROL SIGNALS ERECTED BY DEPARTMENT

The Department has given a great deal of study to the determination of the important routes of travel for the purpose of marking and furnishing direction signs as aids for traveling. Ninety-five automobile routes have been selected, including practically every city, town and village in the Commonwealth, having a total mileage of 3,200 miles. Included in this designation are the so-called United States routes, the numbering of which conforms to the numbers approved by the United States Bureau of Public Roads. The other routes selected are numbered according to the State's designation.

The placing of route numbers and direction signs at points of advantage on these designated highways is done by the Department both on State highways and on city and town ways, permission for the latter being obtained from the local authorities. Warning signs and traffic control signals which are erected and maintained by the Department are placed only on State highways.

During the year the foundation was laid for the numbering of the Worcester Turnpike and adjacent routes. Several of the Massachusetts automobile routes which crossed into neighboring states were changed and it was possible through the continued cooperation of the bordering state highway officials to have these additional routes cross the State line without changing the route numbers.

In addition to the great number of existing signs already used to warn or direct the motorist, the Department, in an effort to instruct drivers further and to insure safety has erected many new signs. Signs reading "Do Not Pass on Hill", "Do Not Pass on Curve" and "Keep Single Line" have been erected at strategic points along the highways. With the opening of the new trunk highway, where speed averaged approximately 40 miles per hour it was necessary to develop a sign which could be read at a greater distance than the large directional signs. Legends, therefore, with letters 12 inches high were painted on large billboard signs. In one case on the Worcester Turnpike a 4' x 12' billboard sign illuminated at night by two 100-watt bulbs and controlled by a time clock was erected.

At locations where the hazard was particularly great and where traffic signals could not be used, neon tubes forming the legend were erected. This type of sign is especially advantageous on foggy nights since it has greater penetrating power than any light or reflector unit.

The Department installed thirty additional traffic control signals during the year, bringing the total of such signals up to sixty-two. Since July 1st of this year the Department has found it more economical and has succeeded in reducing the maintenance charges by installing its own traffic signals.

In the year just passed the Department designated twenty-four additional miles of State highway as Through Ways. The total now approximates fifty miles.

The manufacture of many of these signs and the erection and maintenance of all of these signs and signals are part of the highway maintenance activities.

TRAFFIC ACCIDENT STUDIES

Studies have been continued to ascertain the attendant circumstances and physical characteristics at points on the highways where accidents have occurred, in order to measure the effectiveness of control or lack of control of traffic movements at such points. Such information included the type of district, layout of the roadway, means of traffic control, atmospheric conditions, light conditions, condition of roadway, physical obstructions in the roadway and obstructions to view. This information is required in reports submitted to the Registry of Motor Vehicles and is supplied to the traffic engineering section for study.

ROADSIDE MAINTENANCE AND DEVELOPMENT

Roadside maintenance as related to the care and planting of trees and other growth on the areas within the highway layouts and adjacent to the traveled surface of State highways has been one of the activities of this Department for over thirty-six years. This work has been developed more rapidly during recent years because it has become recognized that systematic and intelligent control and development of all features of the roadside conditions are of value not only from the point of view of attractiveness in appearance but as a safety factor as well.

The Department has organized and trained a group of men under competent supervision to have charge of this work, not only for the removal and trimming of trees, brush and undesirable growth, but also for the selection and planting of new growth suitable for the locations. The removal of trees and brush that may obstruct vision at curves, intersections or other points on the highway is done to insure that operating conditions shall be as safe as possible and unnecessary growth is cleared cut in order to afford attractive vistas at many scenic locations. For the protection of the roadside trees the Department has maintained a corps of inspectors to supervise the trimming that may be necessary for the construction of light and power transmission lines. In connection with this work a Nursery is maintained at Sudbury where most of the trees and shrubs for use on the highways of Massachusetts are grown and made available for use by the Department. Strict supervision of the tree trimming by the Public Service Corporations is maintained, thus preserving the natural beauty of our roadsides as much as possible and still allowing the Public Service Corporations to extend their services.

During the year 1,440 trees were planted, making a total for the past twenty-eight years of 63,664 trees planted; and this year 4,429 shrubs have been planted throughout the State; in addition 6,731 small pines have been planted on bare slopes and ragged cuts.

Approximately 2,000 men were given employment for a period of four months. These men were employed on the various maintenance activities of the Department; many of them working on roadside work and improvement, such as cutting undesirable growth, trimming and removing trees to improve visibility at hazardous locations, grading and seeding unsightly slopes and other miscellaneous work with a view to improving the aesthetic value of our roadsides.

The trees and shrubs formerly contained in nurseries in various sections of the State on rented or borrowed land have been transferred to the newly acquired Nursery at Sudbury and, although this Nursery has already proven its value to the department, it will be several years before the maximum use can be made of it.

SIDEWALK CONSTRUCTION ON STATE HIGHWAYS

Under Chapter 439, Acts of 1931, the Department made use of many of the State's unemployed through the construction of sidewalks along State highways where a definite need had been established and the unemployment situation in that locality appeared to be acute. In each case where a sidewalk was constructed the Department cooperated with the cities and towns in the employment of the labor necessary by using only men recommended to them by the Welfare Boards or Officials of the towns and cities. In each case the town or city in which the sidewalk was constructed agreed with the Department to maintain the sidewalk after construction.

FEDERAL AID IN CONSTRUCTING HIGHWAYS

Statements as to the acts of Congress and of the Massachusetts Legislature with respect to cooperation between the United States and the states in the construction and maintenance of highways, including the Federal Highway Act approved Nov. 9, 1921, may be found in the annual reports of this Department for the years 1920-1927, inc.

The following Federal aid allotments have thus far been made to Massachusetts:—

For fiscal year ending June 30, 1917	\$73,850 94
For fiscal year ending June 30, 1918	147,701 90
For fiscal year ending June 30, 1919	958,145 15
For fiscal year ending June 30, 1920	1,400,078 27
For fiscal year ending June 30, 1921	1,472,788 83
For fiscal year ending June 30, 1922	1,096,176 04
For fiscal year ending June 30, 1923	730,784 03
For fiscal year ending June 30, 1924	950,448 62
For fiscal year ending June 30, 1925	1,089,806 22
For fiscal year ending June 30, 1926	1,099,891 00
For fiscal year ending June 30, 1927	1,089,055 00
For fiscal year ending June 30, 1928	1,089,100 00
For fiscal year ending June 30, 1929	1,088,808 00
For fiscal year ending June 30, 1930	1,090,077 00
For fiscal year ending June 30, 1931	1,821,569 00
For fiscal year ending June 30, 1932	1,813,916 00
For fiscal year ending June 30, 1933	1,511,244 00

Total \$18,523,440 00

In addition to the above, an allotment from "Federal Emergency Advance Funds" amounting to \$1,141,460.00 was made in 1931 and an allotment from the Federal Emergency Relief and Construction Act amounting to \$1,716,612.00 was made in 1932.

The total amount received by Massachusetts from 1916 to November 30, 1932 is \$17,106,256.56*.

Projects to the number of 21 have been prepared in addition to those shown in the report of the Department of Public Works for 1931. The total mileage included in the various Federal aid road projects in this state, from the commencement of work of this character to November 30, 1932, inclusive, is 940.843. The mileage in various counties is:—

Barnstable, 93.171 miles	Hampden, 52.998 miles
Berkshire, 119.213 miles	Hampshire, 48.987 miles
Bristol, 83.548 miles	Middlesex, 82.695 miles
Dukes, 3.117 miles	Norfolk, 81.370 miles
Essex, 73.863 miles	Plymouth, 99.959 miles
Franklin, 42.498 miles	Worcester, 159.424 miles

STATEMENT OF FEDERAL AID ROAD PROJECTS* TO NOV. 30, 1932

No.	TOWN OR CITY	Miles	Amount of Federal Aid Involved	Amount received	Remarks
1	Acushnet-Fairhaven	2.182	\$21,820 00	\$21,820 00	Work completed.
2	Hanover	2.708	19,480 36	19,480 36	Work completed.
R-2	Hanover	2.615	39,225 00	39,225 00	Work completed.
3	Malden-Melrose-Saugus	1.162	11,620 00	11,620 00	Work completed.
4	Danvers	1.325	15,460 22	15,460 22	Work completed.
5	Windsor-Dalton	3.240	64,800 00	64,800 00	Work completed.
6	Sandwich	1.818	10,678 02	10,678 02	Work completed.
7	Cummington	4.659	86,816 53	86,816 53	Work completed.
8	Athol-Petersham	7.016	90,074 51	90,074 51	Work completed.
9	Saugus	3.122	65,472 27	65,472 27	Work completed.
10	Braintree	2.420	40,554 80	40,554 80	Work completed.
11	Concord-Acton-Littleton	4.849	77,600 87	77,600 87	Work completed.
12	Ipswich	2.173	21,851 50	21,851 50	Work completed.
E-12	Ipswich	2.081	16,000 00		Work underway.
13	Littleton-Groton	6.459	130,504 25	130,504 25	Work completed.
14	Barnstable	3.331	22,687 65	22,687 65	Work completed.
15	Norwell-Hingham	4.380	59,501 75	59,501 75	Work completed.
17	Lynnfield-Peabody	1.794	35,880 00	35,880 00	Work completed.
18	Lunenburg	2.797	55,940 00	55,940 00	Work completed.
19	Taunton	2.116	42,320 00	42,320 00	Work completed.
20	Tewksbury	2.909	35,211 82	35,211 82	Work completed.
21	Pittsfield-Hancock	3.637	72,483 32	72,483 32	Work completed.
E-21-A	Hancock-Pittsfield	2.773	14,000 00		Work underway.
E-21B	Hancock	1.098	11,000 00		Work underway.

* Includes \$1,141,460.00 Federal Emergency Advance funds.
All of these projects are now, or will be later, State highways.

STATEMENT OF FEDERAL AID ROAD PROJECTS TO NOV. 30, 1932 — *Continued*

No.	TOWN OR CITY	Miles	Amount of Federal Aid Involved	Amount received	Remarks
22	Greenfield-Bernardston	6.426	88,270 71	88,270 71	Work completed.
23	Great Barrington	2.123	31,348 89	31,348 89	Work completed.
24	Seekonk	2.756	19,527 75	19,527 75	Work completed.
R24	Seekonk	2.756	41,340 00	41,340 00	Work completed.
25	Billerica	0.578	38,389 77	38,389 77	Work completed.
26	Greenfield-Shelburne:				
	Section 1	5.134	102,680 00	102,680 00	Work completed.
	Section 2	4.401	88,020 00	88,020 00	Work completed.
27	Hamilton-Wenham	1.766	20,207 27	20,207 27	Work completed.
28	Lanesborough:				
	Section A	0.990	19,780 00	19,780 00	Work completed.
	Section B	2.690	53,800 00	53,800 00	Work completed.
29	Ware	2.626	46,557 55	46,557 55	Work completed.
30	Brimfield	4.206	84,120 00	84,120 00	Work completed.
31	Danvers-Peabody	1.107	22,140 00	22,140 00	Work completed.
32	Huntington	3.078	97,163 48	97,163 48	Work completed.
33	Acton-Littleton:				
	Section A	2.182	43,640 00	43,640 00	Work completed.
	Section B	1.624	25,847 25	25,847 25	Work completed.
34	Dudley	1.359	27,180 00	27,180 00	Work completed.
35	Haverhill-Methuen	4.544	90,880 00	90,880 00	Work completed.
36	Eastham-Wellfleet-Provincetown:				
	Section A	10.690	91,347 85	91,347 85	Work completed.
	Section B	6.548	75,935 60	75,935 60	Work completed.
	Section C	8.043	86,130 51	86,130 51	Work completed.
37	Egremont	1.164	20,579 07	20,579 07	Work completed.
38	Peabody-Danvers	2.827	56,540 00	56,540 00	Work completed.
39	Williamstown-New Ashford-Lanesborough:				
	Section A	0.020	9,123 64	9,123 64	Work completed.
	Section B	3.323	65,980 00	65,980 00	Work completed.
	Section C	4.590	68,850 00	68,850 00	Work completed.
40	East Brookfield	1.011	20,220 00	20,220 00	Work completed.
41	Ashby	1.250	22,141 03	22,141 03	Work completed.
42	Washington	2.291	45,820 00	45,820 00	Work completed.
43	Leicester	0.638	12,760 00	12,760 00	Work completed.
44	Goshen-Cummington-Windsor:				
	Section A	1.494	29,880 00	29,880 00	Work completed.
	Section B	1.479	50,183 37	50,183 37	Work completed.
	Section C	3.780	82,915 42	82,915 42	Work completed.
	Section D	3.022	54,874 60	54,874 60	Work completed.
45	Palmer:				
	Sections A and C	1.795	35,900 00	35,900 00	Work completed.
46	Upton-Hopedale:				
	Section A	1.672	33,440 00	33,440 00	Work completed.
47	Barre-Oakham	1.737	37,200 75	37,200 75	Work completed.
50	Lunenburg	1.763	35,260 00	35,260 00	Work completed.
51	Mendon-Uxbridge:				
	Section A	1.959	39,180 00	39,180 00	Work completed.
	Section B	2.504	50,080 00	50,080 00	Work completed.
52	Oxford	3.208	64,160 00	64,160 00	Work completed.
53	East Brookfield-Spencer-West Brookfield:				
	Section A	0.890	17,800 00	17,800 00	Work completed.
	Section B	1.682	33,640 00	33,640 00	Work completed.
54	Leicester:				
	Section A	0.829	16,580 00	16,580 00	Work completed.
	Section B	2.691	53,820 00	53,820 00	Work completed.
55	Quincy	0.549	10,980 00	10,980 00	Work completed.
56	Stoughton	2.141	42,820 00	42,820 00	Work completed.
57	Winchester-Woburn	3.042	59,131 31	59,131 31	Work completed.
58	Littleton	1.345	26,900 00	26,900 00	Work completed.
59	Egremont	0.784	15,678 18	15,678 18	Work completed.
60	Middleton-Danvers	1.907	38,224 70	38,224 70	Work completed.
61	Winchendon-Templeton	5.393	106,117 44	106,117 44	Work completed.
62	Danvers-Topsfield:				
	Section A	3.009	60,180 00	60,180 00	Work completed.
	Section B	3.513	76,959 91	76,959 91	Work completed.
63	Essex-Ipswich	4.489	89,780 00	89,780 00	Work completed.
64	Norwood	1.065	21,800 00	21,800 00	Work completed.
65	North Adams	1.638	32,760 00	32,760 00	Work completed.
66	Haverhill	2.657	53,049 24	53,049 24	Work completed.
70	Palmer	2.550	51,000 00	51,000 00	Work completed.
71	Wrentham	1.846	36,940 00	36,940 00	Work completed.
72	Walpole	3.078	61,560 00	61,560 00	Work completed.
73	Southwick	6.879	111,757 95	111,757 95	Work completed.
74	Becket	0.156	13,095 66	13,095 66	Work completed.
R74	Becket	0.189	10,290 54	10,290 54	Work completed.
75	Topsfield-Ipswich-Rowley-Newbury:				
	Section A	10.207	207,163 37	207,163 37	Work completed.
76	Norfolk	1.447	28,940 00	28,940 00	Work completed.
77	Merrimac	1.020	20,397 73	20,397 73	Work completed.
78	Burlington	3.761	75,220 00	75,220 00	Work completed.
79	Great Barrington	2.991	59,820 00	59,820 00	Work completed.
79B	Great Barrington	0.028	8,522 99	8,522 99	Work completed.
80	Lee:				
	Section A	0.909	18,180 00	18,180 00	Work completed.
	Section B	0.283	4,245 00	4,245 00	Work completed.

STATEMENT OF FEDERAL AID ROAD PROJECTS TO NOV. 30, 1932 — *Continued*

No.	TOWN OR CITY	Miles	Amount of Federal Aid Involved	Amount received	Remarks
83	Pembroke	2.121	31,815 00	31,815 00	Work completed.
84	Sterling-West Boylston	3.491	51,974 04	51,974 04	Work completed.
85	Dalton-(Hinsdale Road):				
	Section A	1.033	20,660 00	20,660 00	Work completed.
	Section B	0.066	7,120 50	7,120 50	Work completed.
86	Gay Head	3.117	40,783 51	40,783 51	Work completed.
87	Dalton (Windsor Road):				
	Section A	1.056	21,120 00	21,120 00	Work completed.
	Section B	0.038	5,429 50	5,429 50	Work completed.
88	Erving	4.537	67,485 00	67,485 00	Work completed.
89	Easton:				
	Sections A and B	3.540	70,800 00	70,800 00	Work completed.
	Section C	3.840	62,400 00	62,400 00	Work completed.
90	Brookfield-East Brookfield	1.227	25,324 95	25,324 95	Work completed.
91	Lowell	0.977	19,537 87	19,537 87	Work completed.
93	Wilbraham	0.208	67,506 06	67,506 06	Work completed.
94	Otis-Sandisfield	7.565	122,931 25	122,931 25	Work completed.
95	Westfield	0.148	12,677 08	12,677 08	Work completed.
R95	Westfield	0.148	46,830 07	27,787 58	Work completed.
96	Rochester-Wareham	4.031	68,979 93	68,979 93	Work completed.
98	Sheffield	3.052	61,133 85	61,133 85	Work completed.
99	Gloucester	1.191	19,353 75	19,353 75	Work completed.
100	Rutland	3.640	59,150 00	59,150 00	Work completed.
101A	Hinsdale	0.297	4,455 00	4,455 00	Work completed.
101B	Hinsdale	0.858	24,116 51	24,116 51	Work completed.
102A	Plainville-Wrentham	3.254	48,810 00	48,410 00	Work completed.
103	Adams	0.568	9,230 00	9,230 00	Work completed.
104	Milton	3.534	70,680 00	70,680 00	Work completed.
105	Rehoboth	1.438	28,760 00	28,760 00	Work completed.
106	Bourne	0.522	35,002 00	35,002 00	Work completed.
R106	Bourne-Falmouth	6.458	66,412 31		Work underway.
107	Southampton	2.203	44,060 00	44,060 00	Work completed.
108	Lakeville-Freetown	4.583	71,706 11	71,706 11	Work completed.
109	West Brookfield	0.066	10,283 73	10,283 73	Work completed.
110	Middleborough-Bridgewater	0.109	24,580 87	24,580 87	Work completed.
111	Braintree	0.371	7,200 00	7,200 00	Work completed.
112	No. Attleborough-Attleborough	3.278	65,560 00	65,560 00	Work completed.
113	Swansea	0.692	11,245 00	11,245 00	Work completed.
113B	Swansea-Somerset	3.503	64,439 74	64,439 74	Work completed.
114	Lenox	2.408	39,130 00	39,130 00	Work completed.
115	Plymouth	1.680	25,522 53	25,522 53	Work completed.
116	Norwood-Walpole	2.453	40,878 91	40,878 91	Work completed.
117A	Chelmsford	1.377	27,540 00	27,540 00	Work completed.
117B	Chelmsford-Tyngsboro	4.625	89,713 81	89,713 81	Work completed.
118A	Brookfield	0.620	12,400 00	12,400 00	Work completed.
118B	Brookfield	0.251	3,765 00	3,765 00	Work completed.
119A	Essex	0.406	8,120 00	8,120 00	Work completed.
120A	Lakeville	4.789	71,835 00	71,835 00	Work completed.
120B	Berkeley	0.864	12,960 00	12,960 00	Work completed.
120C	Taunton-Berkeley	2.758	41,370 00	41,370 00	Work completed.
120D	Taunton	0.862	12,930 00	12,930 00	Work completed.
121A	Abington	0.947	17,887 34	17,887 34	Work completed.
121B	Bridgewater	0.113	16,568 31	16,568 31	Work completed.
121C	Weymouth	2.720	40,800 00	40,800 00	Work completed.
121D	E. Bridgewater-Whitman	2.000	30,000 00	30,000 00	Work completed.
121E	Abington	1.088	14,770 42	14,770 42	Work completed.
122A	Barnstable	0.066	18,711 51	18,711 51	Work completed.
122B	Barnstable-Mashpee	2.482	36,349 09	36,349 09	Work completed.
122C	Falmouth-Mashpee	8.137	114,307 02	114,307 02	Work completed.
122D	Barnstable	5.643	44,860 06	44,860 06	Work completed.
122E	Barnstable	1.621	26,313 81		Work completed.
E-122F	Barnstable-Yarmouth	2.395	4,855 78		Work underway.
123A	Southampton	2.461	47,155 67	47,155 67	Work completed.
124A	Wayland	0.189	30,296 68	30,296 68	Work completed.
124B	Marlborough	1.626	24,390 00	24,390 00	Work completed.
124C	Weston	1.004	15,060 00	15,060 00	Work completed.
125A	Wareham	3.086	68,316 11	68,316 11	Work completed.
125B	Wareham	2.761	41,415 00	41,415 00	Work completed.
127A	Holyoke	4.136	62,040 00	62,040 00	Work completed.
127B	Easthampton-Northampton	1.762	74,258 69	74,258 69	Work completed.
128A	Hinsdale	0.066	8,598 63	8,598 63	Work completed.
128B	Hinsdale	0.952	14,280 00	14,280 00	Work completed.
129A	Dighton-Somerset	3.465	51,975 00	51,975 00	Work completed.
129B	Somerset	4.340	65,511 29	65,511 29	Work completed.
130A	Auburn-Oxford	4.208	63,120 00	63,120 00	Work completed.
131A	Wilbraham	0.530	7,950 00	7,950 00	Work completed.
131B	Wilbraham	1.012	15,180 00	15,180 00	Work completed.
132A	Duxbury-Kingston	2.123	31,845 00	31,845 00	Work completed.
133A	North Andover	0.615	9,225 00	9,225 00	Work completed.
133B	North Andover	0.771	11,565 00	11,565 00	Work completed.
133C	North Andover	2.670	35,085 00	35,085 00	Work completed.
134A	Barre	1.217	18,255 00	18,255 00	Work completed.
134B	Barre	1.261	18,915 00	18,915 00	Work completed.
134C	Barre	1.617	24,255 00	24,255 00	Work completed.

STATEMENT OF FEDERAL AID ROAD PROJECTS TO NOV. 30, 1932 — *Continued*

No.	TOWN OR CITY	Miles	Amount of Federal Aid Involved	Amount received	Remarks
E-134D	Oakham-Rutland	3.493	20,000 00		Work underway.
135A	Russell	0.557	13,919 60	13,919 60	Work completed.
135B	Westfield-Russell	3.607	54,075 00	54,075 00	Work completed.
135C	Russell	3.291	53,059 55	53,059 55	Work completed.
135D	Russell-Huntington	3.670	55,050 00	55,050 00	Work completed.
136A	Agawam	1.331	19,965 00	19,965 00	Work completed.
136B	Agawam	1.515	22,725 00	22,725 00	Work completed.
136C	Agawam	1.000	15,000 00	15,000 00	Work completed.
137A	Sheffield	0.170	22,710 05	22,710 05	Work completed.
137C	Sheffield	1.532	22,980 00	22,980 00	Work completed.
138A	Chester	0.097	10,818 36	10,818 36	Work completed.
138B	Chester	4.250	92,391 53	92,391 53	Work completed.
138C	Becket	2.742	64,963 68	64,963 68	Work completed.
139A	Brimfield	0.103	6,075 05	6,075 05	Work completed.
139B	Brimfield	4.778	68,916 18	68,916 18	Work completed.
140A	Lenox-Lee	3.519	52,785 00	52,785 00	Work completed.
140B	Lee	0.057	26,620 13	26,620 13	Work completed.
141A	Williamsburg	0.211	8,880 65	8,880 65	Work completed.
141B	Goshen-Williamsburg	5.042	93,547 40	93,547 40	Work completed.
141C	Northampton-Williamsburg	4.146	62,190 00	62,190 00	Work completed.
142A	Fitchburg-Westminster	3.960	69,171 34	69,171 34	Work completed.
142B	Gardner-Westminster	3.699	52,316 73	52,316 73	Work completed.
142C	Gardner-Templeton	4.174	62,610 00	62,610 00	Work completed.
143	Fairhaven-Mattapoisett	3.245	52,079 86	52,079 86	Work completed.
144A	Canton-Stoughton	4.306	64,436 20	64,436 20	Work completed.
145A	Ashland-Holliston	3.330	34,645 01	34,645 01	Work completed.
146A	Paxton	1.783	26,745 00	26,745 00	Work completed.
146B	Paxton-Worcester	4.930	73,950 00	73,950 00	Work completed.
147A	Lenox-Pittsfield	2.349	35,235 00	35,235 00	Work completed.
148A	Raynham	1.657	24,855 00	24,855 00	Work completed.
148B	Raynham-Taunton	2.861	42,915 00	42,915 00	Work completed.
149A	Middleborough	5.586	83,790 00	83,790 00	Work completed.
149B	Middleborough	0.831	12,465 00	12,465 00	Work completed.
150A	Littleton-Westford	1.985	29,775 00	29,775 00	Work completed.
150B	Westford	2.660	39,900 00	39,900 00	Work completed.
151A&B	Swansea-Somerset	0.464	89,138 06	89,138 06	Work completed.
152A	Dartmouth	1.401	21,015 00	21,015 00	Work completed.
152B	Dartmouth	2.858	42,870 00	42,870 00	Work completed.
152C	Westport	4.634	69,510 00	69,510 00	Work completed.
153A	Southampton-Easthampton	1.410	21,150 00	21,150 00	Work completed.
154A	Sturbridge	2.503	37,545 00	37,545 00	Work completed.
155A	West Springfield	0.549	8,235 00	8,235 00	Work completed.
155B	Westfield-W. Springfield	2.348	134,395 92	51,745 58	Work completed.
156A	Orange	1.058	15,870 00	15,870 00	Work completed.
156B	Orange	2.607	39,105 00	39,105 00	Work completed.
156C	Athol-Orange	1.544	24,606 61	24,606 61	Work completed.
157A	Sandisfield-Tolland	0.644	34,803 50	34,803 50	Work completed.
R157A	Sandisfield-Tolland	0.644	5,107 62	5,107 62	Work completed.
157B	Sandisfield	0.473	32,037 28	32,037 28	Work completed.
157C	Sandisfield-Tolland	3.038	45,570 00	45,570 00	Work completed.
157D	Sandisfield	0.219	13,641 74	13,641 74	Work completed.
158A	Dalton	0.430	22,087 67	22,087 67	Work completed.
159A	Seekonk-Rehoboth-Swansea	1.899	49,876 52	49,876 52	Work completed.
159B	Seekonk	2.251	33,765 00	33,765 00	Work completed.
159C	Swansea	2.767	41,505 00	41,505 00	Work completed.
160A	Lenox-Lee-Stockbridge	5.453	81,795 00	81,795 00	Work completed.
161A	Brockton-W. Bridgewater	3.823	57,345 00	57,345 00	Work completed.
161B	Avon-Brockton	2.201	33,015 00	33,015 00	Work completed.
162A	Holliston	3.315	49,725 00	49,725 00	Work completed.
162B	Milford	1.790	26,850 00	26,850 00	Work completed.
163A	Amherst	0.052	3,787 09	3,787 09	Work completed.
163B	Amherst	2.100	31,500 00	31,500 00	Work completed.
164A	Westminster-Winchendon	0.750	42,931 27	42,931 27	Work completed.
164B	Westminster-Ashburnham	3.607	54,105 00	54,105 00	Work completed.
164C	Ashburnham	3.776	56,640 00	56,640 00	Work completed.
164D	Winchendon	2.826	42,390 00	42,390 00	Work completed.
165A	Winchendon	2.460	36,900 00	36,900 00	Work completed.
166	Becket-Otis	6.043	99,077 00	99,077 00	Work completed.
168A	Deerfield	3.043	45,645 00	45,645 00	Work completed.
169A	Merrimac-Amesbury	3.397	50,955 00	50,955 00	Work completed.
E170A	Cohasset-Hingham	3.151	34,273 54		Work underway.
171A	Chelmsford	1.536	23,040 00	23,040 00	Work completed.
172A	Leominster-Sterling	2.718	40,770 00	40,770 00	Work completed.
173A	Cheshire	4.377	74,965 81	74,965 81	Work completed.
173B	Lanesboro	1.742	26,130 00	26,130 00	Work completed.
174A	Marshfield	4.533	67,995 00	67,995 00	Work completed.
175A	Sandwich	0.217	22,181 26	22,181 26	Work completed.
175B	Orleans	1.904	23,601 55	23,601 55	Work completed.
175C	Barnstable	0.927	13,905 00	13,905 00	Work completed.
175D	Sandwich	2.364	35,460 00	35,460 00	Work completed.
175E	Brewster-Orleans	7.858	106,314 45	106,314 45	Work completed.
176A	Plymouth	5.032	70,543 35	70,543 35	Work completed.
176B	Plymouth-Bourne	2.948	44,220 00	44,220 00	Work completed.
177A	Chatham	3.964	48,588 18	48,588 18	Work completed.

STATEMENT OF FEDERAL AID ROAD PROJECTS TO NOV. 30, 1932 — *Continued*

No.	TOWN OR CITY	Miles	Amount of Federal Aid Involved	Amount received	Remarks
177B	Orleans	1.802	25,838 02	25,838 02	Work completed.
177C	Dennis	3.219	38,734 30	38,734 30	Work completed.
178A	Chelmsford	1.262	18,930 00	18,930 00	Work completed.
179A	Falmouth	3.394	50,910 00	50,910 00	Work completed.
180A	Franklin-Wrentham	3.125	46,875 00	46,875 00	Work completed.
180B	Bellingham-Franklin	3.889	58,335 00	58,335 00	Work completed.
181A	Florida-North Adams	2.818	42,270 00	42,270 00	Work completed.
181B	Florida	2.736	41,040 00	41,040 00	Work completed.
181C	North Adams-Clarksburg	3.362	50,430 00	50,430 00	Work completed.
181D	Florida-Savoy	3.702	55,530 00	55,530 00	Work completed.
182A	Lunenburg	1.312	19,680 00	19,680 00	Work completed.
183A	Amesbury-Salisbury	1.922	28,830 00	28,830 00	Work completed.
183B	Amesbury	1.329	45,345 32	45,345 32	Work completed.
184A	Charlton	2.848	42,720 00	42,720 00	Work completed.
184B	Charlton-Sturbridge	5.623	84,345 00	84,345 00	Work completed.
184D	Oxford	0.906	22,650 00		Work completed.
185A	Buckland	1.245	18,675 00	18,675 00	Work completed.
185B	Charlemont	2.433	35,640 00	35,640 00	Work completed.
185C	Charlemont	0.421	34,244 36	34,244 36	Work completed.
186	Salisbury	2.405	36,075 00	36,075 00	Work completed.
187A	Bellingham	1.225	18,375 00	18,375 00	Work completed.
187B	Hopedale-Mendon-Bellingham	2.502	34,650 00	34,650 00	Work completed.
188A	Townsend	3.813	57,195 00	57,195 00	Work completed.
188B	Pepperell-Groton	3.368	50,520 00	50,520 00	Work completed.
188C	Groton-Pepperell	1.627	54,509 15	9,516 49	Work completed.
188D	Townsend	0.061	17,849 72	12,635 50	Work completed.
188E	Townsend	0.009	2,400 58		Work completed.
189A	Marion-Wareham	0.582	78,792 57	78,792 57	Work completed.
189B	Mattapoisett	1.804	27,060 00	27,060 00	Work completed.
189C	Marion	4.554	68,310 00	68,310 00	Work completed.
189D	Wareham	1.344	20,160 00	20,160 00	Work completed.
190A	Becket	2.254	33,810 00	33,810 00	Work completed.
190B	Hinsdale	0.307	45,608 50	25,664 75	Work completed.
191A	Falmouth	5.896	81,094 43	81,094 43	Work completed.
191B	Falmouth	1.752	26,280 00	26,280 00	Work completed.
192A	Groveland	1.643	24,645 00	24,645 00	Work completed.
192B	Newburyport	1.745	26,175 00	26,175 00	Work completed.
193A	Hadley	1.985	25,821 78	25,821 78	Work completed.
193B	Hadley	2.662	26,852 35	26,852 35	Work completed.
194A	Athol-Phillipston-Templeton	4.738	71,070 00	71,070 00	Work completed.
195A	Mansfield-Norton	0.960	17,862 40	17,862 40	Work completed.
195B	Mansfield-Norton	2.617	39,255 00	39,255 00	Work completed.
195C	Foxborough-Wrentham	0.927	23,175 00	19,073 98	Work completed.
196A	Millbury-Grafton	4.440	66,600 00	66,600 00	Work completed.
197	Plymouth	6.543	96,288 19	96,288 19	Work completed.
198	Milford-Hopedale-Upton	4.418	66,270 00	66,270 00	Work completed.
199A	Newbury	0.303	127,124 34	127,124 34	Work completed.
199B	Newbury-Rowley	4.437	111,552 35	111,552 35	Work completed.
200A	Rehoboth	1.875	28,125 00	28,125 00	Work completed.
200B	Taunton-Dighton-Rehoboth	5.690	86,868 07	86,868 07	Work completed.
201	Wiiraham	1.530	22,950 00	22,950 00	Work completed.
202A	Hanover-Pembroke	2.601	44,462 11	44,462 11	Work completed.
202B	Duxbury-Kingston-Pembroke	6.164	92,460 00	92,460 00	Work completed.
203	Natick-Wellesley	2.066	30,990 00	30,990 00	Work completed.
204	Erving	3.214	48,210 00	48,210 00	Work completed.
205	Dalton	0.913	22,152 43	22,152 43	Work completed.
206A	Billerica	1.898	35,399 86	35,399 86	Work completed.
206B	Billerica	0.978	14,670 00	14,670 00	Work completed.
206C	Billerica-Chelmsford	2.874	48,356 46	30,679 86	Work completed.
207A	Bridgewater-Middleboro	10.474	173,628 65	173,628 65	Work completed.
208A	Weston	0.186	42,652 01	19,385 85	Work completed.
208B	Weston	1.224	18,360 00	16,655 12	Work completed.
209A	Milton-Quincy-Randolph	3.315	49,725 00		Work completed.
210A	Becket-Lee	7.192	107,880 00	87,320 68	Work completed.
210B	Becket	2.886	43,290 00	43,290 00	Work completed.
211A	Northborough-Shrewsbury-Southborough	11.272	444,715 17	241,627 87	Work completed.
211B	Framingham-Southborough	4.398	82,947 44	66,731 14	Work completed.
211C	Framingham-Natick	4.061	100,200 00	48,248 16	Work underway.
E211D	Wellesley	2.272	40,000 00		Work underway.
E211E	Wellesley	1.108	70,000 00		Work underway.
212	North Attleborough	2.123	46,890 51	39,408 28	Work completed.
213	Attleborough	1.455	58,131 53	58,131 53	Work completed.
214A	Tyngsborough	0.540	236,907 35	173,677 55	Work completed.
215A	Palmer-Monson	0.606	79,452 36	79,452 36	Work completed.
216A	Dedham	0.738	10,935 00	10,935 00	Work completed.
217	Chester-Huntington	3.781	61,090 38	61,090 38	Work completed.
218	Canton-Dedham-Westwood	3.947	202,012 06	129,297 55	Work completed.
219A	Marlborough-Northborough	5.109	87,411 93	82,268 29	Work completed.
219B	Northborough-Shrewsbury	2.578	64,073 71	38,010 58	Work underway.
220A	Foxborough-Plainville-Wrentham	5.722	85,830 00	85,830 00	Work completed.
221	Egremont	2.135	53,375 00	45,712 25	Work completed.
222	Deerfield-Greenfield	0.837	168,855 58	95,019 75	Work completed.
223A	Williamstown	1.789	44,725 00	32,794 29	Work completed.

STATEMENT OF FEDERAL AID ROAD PROJECTS TO NOV. 30, 1932 — *Continued*

No.	TOWN OR CITY	Miles	Amount of Federal Aid Involved	Amount received	Remarks
224A	Andover-No. Reading-Reading	4.431	125,109 01	56,711 93	Work completed.
225A	Erving	1.425	89,590 80	23,837 41	Work completed.
225B	Gill-Greenfield	5.147	162,429 00	128,691 45	Work completed.
225C	Erving-Gill	0.017	236,449 23		Work underway.
226A	Auburn-Worcester	4.809	143,134 13	86,735 61	Work underway.
226B	Millbury-Worcester	2.125	219,350 35	102,055 25	Work underway.
226C	Shrewsbury-Worcester	3.015	89,151 11	69,128 91	Work underway.
227	Foxborough-Sharon-Wrentham	4.314	178,951 92	120,407 27	Work completed.
228A	Uxbridge	4.171	128,280 31	51,179 95	Work completed.
229A	Dedham-Westwood-Needham	3.448	100,412 55	79,752 13	Work underway.
229B	Needham-Wellesley	3.653	103,047 67	52,717 33	Work underway.
230A	Salisbury	2.184	43,990 79		Work completed.
231A	Sharon-Walpole-Norwood	5.458	143,527 10	120,004 77	Work completed.
231B	Dedham-Westwood-Norwood	3.566	168,318 57		Work underway.
232A	Littleton	0.420	44,811 22		Work completed.
233A	Lakeville-Middleborough	4.112	135,116 08	103,127 43	Work completed.
E235-A	Wellesley	1.360	35,000 00		Work underway.
E236	Lakeville-Middleborough-Taun- ton-Raynham	6.344	60,000 00		
238A	Granby	3.154	50,894 40	11,301 22	Work underway.
E238B	Belchertown	2.812	20,000 00		Work underway.
240A	Worcester-West Boylston	2.229	41,448 73		Work underway.
Total		940.843	\$18,484,259 37	\$15,964,796 56	

STATEMENT OF FEDERAL EMERGENCY ADVANCE FUNDS

No.	TOWN OR CITY	Amount of Federal Aid Involved	Amount received	Remarks
122D	Barnstable	\$116,571 15	\$116,571 15	
124C	Weston	132,685 22	132,685 22	
188C	Groton-Pepperell	9,516 49	9,516 49	
199B	Newbury-Rowley	62,185 37	62,185 37	
208B	Weston	78,216 94	78,216 94	
219A	Marlborough-Northborough	329,743 37	329,743 37	
220A	Foxborough-Plainville-Wrentham	286,202 25	286,202 25	
224A	Andover-No. Reading-Reading	90,544 85	90,544 85	
225A	Erving	35,794 36	35,794 36	
Total		\$1,141,460 00	\$1,141,460 00	

STATEMENT OF FEDERAL EMERGENCY RELIEF AND CONSTRUCTION ACT

E-12	Ipswich	43,121 59	Underway
E-21A	Hancock-Pittsfield	117,713 39	Underway
E-21B	Hancock	62,577 35	Underway
E-122F	Barnstable-Yarmouth	78,001 36	Underway
E-184D	Oakham-Rutland	87,991 78	Underway
E-170A	Cohasset-Hingham	255,600 00	Underway
E-211D	Wellesley	203,119 63	Underway
E-211E	Wellesley	312,873 09	Underway
E-235A	Wellesley	86,773 19	Underway
E-236	Lakeville-Middleborough-Taunton- Raynham	392,119 17	Underway
E-238B	Belchertown	59,214 08	Underway
Total obligated		\$1,699,104 63	
Not obligated		17,507 37	
Total apportionment		\$1,716,612 00	

BRIDGES

During the year the Department has prepared designs and plans for, and done other work relating to, bridges throughout the Commonwealth. The various cities and towns, the localities therein, the character of the structure and other details are as follows:

BRIDGES AND STRUCTURES BUILT OR CONTRACTED FOR

Cities and Towns, Locality and Character of Structure

Alford — Green River Road over Green River; two 33-foot spans, reinforced concrete beam and slab.

Ashland — Homer Avenue over Cold Spring Brook; one 17-foot span, reinforced concrete slab.

Belchertown — Enfield Road over Jabish Brook; one 20-foot span, reinforced concrete slab.

- Belchertown — Parker Road over Jabish Brook; one 18-foot span, reinforced concrete slab.
- Charleton — Sturbridge Road over Cady Brook; one 12-foot span, reinforced concrete slab.
- Dartmouth — Pctomska Road over Little River; two 18-foot spans, reinforced concrete beam and slab; one 63-foot span, steel girder.
- Dedham — Providence Turnpike over Circumferential Highway; one 83-foot span, steel deck girder with reinforced concrete floor.
- Dedham — Providence Turnpike over High Street; one 73-foot span, steel deck girder with reinforced concrete floor.
- Dedham — Providence Turnpike over Williams Street; one 64-foot span, steel deck girder with reinforced concrete floor.
- Dedham — Reinforced concrete mat and culvert at sites of High Street and Williams Street Bridges.
- Dedham — Retaining walls at High Street and Williams Street bridges.
- Dighton — Taunton Road at Taunton line over Three Mile River; one 42-foot span, reinforced concrete beam and slab.
- Edgartown — At Oak Bluffs line over Sengekontacket Pond; sixteen 15-foot spans, timber trestle.
- Framingham — Concord Street over Sudbury River; two 28-foot spans, reinforced concrete beam and slab.
- Granby — Belchertown Road over Forge Pond Brook; one 15-foot span, reinforced concrete slab.
- Granville — Main Road at Tolland line over Hubbard River; one 26-foot span, reinforced concrete beam and slab.
- Hingham — Cohasset Road over tracks of New York, New Haven and Hartford Railroad, one 57-foot span, steel stringers with reinforced concrete floor.
- Hingham — Cohasset Road over Weir River; one 17-foot span, reinforced concrete slab.
- Hinsdale — Fassell Road over branch of Housatonic River; one 20-foot span, reinforced concrete slab.
- Lee — West Park Street over Canal; one 23-foot span, reinforced concrete beam and slab.
- Lee — West Park Street over Housatonic River; two 60-foot spans, steel stringers with reinforced concrete floor.
- Middleborough — Cattle pass over Thompson Street; two 24-foot spans and one 40-foot span, reinforced concrete girder.
- Needham — Circumferential Highway under tracks of New York, New Haven and Hartford Railroad; one 75-foot span, steel girder.
- Needham — Highland Avenue over Circumferential Highway; one 63-foot span, concrete rigid frame.
- Newbury — Middle Street over Parker River; one 42-foot span, steel stringer.
- Newton — Retaining walls at Centre Street on Worcester Turnpike.
- Newton — Retaining walls at Quinobequin Road and Chestnut Street, on Worcester Turnpike.
- Newton — Retaining walls at Parker Street on Worcester Turnpike.
- Newton — Worcester Turnpike over Centre Street; one 93-foot span, three-hinged steel arch.
- Newton — Worcester Turnpike over Chestnut Street; one 50-foot span, reinforced concrete rigid frame.
- Newton — Worcester Turnpike over Quinobequin Road; one 51-foot span, reinforced concrete rigid frame.
- Newton — Worcester Turnpike over Sudbury Aqueduct; one 9-foot span, reinforced concrete saddle.
- Newton — Worcester Turnpike under Parker Street; two 30-foot spans, steel stringers with reinforced concrete floor.
- Pittsfield — State Highway over Phelps Brook; one 31-foot span, reinforced concrete beam and slab.

- Revere — Beach Street over tracks of Boston and Maine Railroad; two 35-foot spans, reinforced concrete beam and slab, one 62-foot span, steel girders.
- Savoy — Adams Road over Westfield River; one 24-foot span, reinforced concrete beam and slab.
- Savoy — Adams Road over Sturtevant Brook; one 24-foot span, reinforced concrete beam and slab.
- Wellesley — Worcester Turnpike over tracks of Boston and Albany Railroad, one 83-foot span, steel plate girder.
- Wellesley — Worcester Turnpike over Aqueduct at Station 11+91; one 6-foot span, reinforced concrete saddle.
- Wellesley — Worcester Turnpike over Weston Road; one 58-foot span, reinforced concrete rigid frame.
- Wellesley — Worcester Turnpike under Washington Street; two 75-foot spans, steel deck plate girders with reinforced concrete floor.
- Wellesley — Worcester Turnpike under Cedar Street; two 40-foot spans, steel stringers with reinforced concrete, concrete floor.
- Wellesley — Worcester Turnpike over Cliff Road; one 50-foot span, reinforced concrete rigid frame.
- Wellesley — Cliff Road over tracks of Boston & Albany Railroad; one 64-foot span, steel plate girder.
- Wellesley — Worcester Turnpike over Aqueduct at Station 147; one 6-foot span, reinforced concrete saddle.
- Wellesley — Worcester Turnpike over Rosemary Brook; one 12-foot span, reinforced concrete slab.
- Wellesley — Retaining walls at Washington Street bridge on Worcester Turnpike.
- Westfield — Main Street over Powder Mill Brook; twenty-two 18-foot spans and one 32-foot span, reinforced concrete pile trestle.
- Westfield — Main Street over Westfield River; two 50-foot spans, steel stringer and one 273-foot span through steel truss.
- Westwood — Providence Turnpike under tracks of New York, New Haven and Hartford Railroad; one 99-foot span, steel plate girder.
- Worthington — Huntington Road over Ward's Stream; one 8-foot span, reinforced concrete box culvert.

ALTERATIONS, REPAIRS AND EXTENSIONS TO BRIDGES AND STRUCTURES MADE OR CONTRACTED FOR

- Billerica — At Wilmington line, Aqueduct bridge over Shawsheen River; extension to existing reinforced concrete arch, 21-foot span.
- Charlton — Southbridge Road over Cady Brook, Sta. 94; extension to reinforced concrete beam and slab, 17-foot span.
- Charlton — Southbridge Road over Cady Brook, Sta. 129; extension to reinforced concrete beam and slab, 20-foot span.
- Charlton — Southbridge Road over Cady Brook, Sta. 17; alteration of bridge fence.
- Dalton — Main Street over Housatonic River; steel bridge repainted.
- Egremont — Under Mountain Road over Guilder Brook; extension to reinforced concrete beam and slab, 24-foot span.
- Greenfield — At Montague line, Montague City Bridge over Connecticut River; repairs to trusses and roof.
- Hingham — Bridge at Otis and Summer Streets; repairs to existing concrete beams.
- Lee — Center Street bridge over Housatonic River; repainting steel.
- Needham — Greendale Avenue over tracks of New York, New Haven and Hartford Railroad; one 32-foot span, reinforced concrete arch extension.
- Newton — Worcester Turnpike over Charles River; extensions to two existing stone faced concrete arches, one 14-foot span and one 50-foot span.

- Newton — Worcester Turnpike over East Branch of Charles River; extension to stone faced concrete arch, 20-foot span.
- North Adams — Greylock Bridge over Hoosic River; repainting steel.
- Oakham — Athol Road over Brook; extension to reinforced concrete arch, 10-foot span.
- Oakham — Athol Road over Mill Pond; extension to reinforced concrete beam and slab, 24-foot span.
- Oxford — Charleton Road over French River; extension to reinforced concrete arch, 16-foot span.
- Pittsfield — Lebanon Avenue over West Branch Housatonic River; extension to reinforced concrete beam and slab, 30-foot span.
- Pittsfield — Hancock Road over Shaker Brook; extension to reinforced concrete beam and slab, 18-foot span.
- Pittsfield — Woodleigh Avenue over Brook; extension to reinforced concrete culvert, 8-foot span.
- Sandisfield — At Tolland line, State Line bridge over Farmington River; repainting steel.
- Sandisfield — Hanging Mountain bridge over Farmington River; repainting steel.
- Sheffield — Blodgett's bridge over Housatonic River; repainting steel.
- Shrewsbury — Boston Post Road over Brook; extension to reinforced concrete slab, 13-foot span.
- Southwick — South Longyard Road over Great Brook; extension to reinforced concrete slab, 11-foot span.
- Southwick — South Longyard Road over canal; extension to reinforced concrete slab, 8-foot span.
- Tewksbury — Main Street over Shawsheen River; extension to 2-span reinforced concrete beam and slab, 20-foot spans.
- Tyngsborough — Tyngsborough Bridge over Merrimack River and tracks of Boston & Maine Railroad; reinforced concrete hood over railroad tracks.
- Wareham — State highway over Weweantic River; extension to reinforced concrete beam and slab, 25-foot span.
- Wareham — State highway over Parker Mills Pond; extension to reinforced concrete beam and slab, 30-foot span.
- Worthington — Huntington Road over Little River; extension to reinforced concrete beam and slab, 28-foot span.
- Worthington — Huntington Road over Ward's Stream; extension to reinforced concrete beam and slab, 20-foot span.

CONTEMPLATED BRIDGES AND STRUCTURES

Plans, Studies or Estimates made

Cities and Towns, Locality and Character of Structure.

- Arlington — Grade separation on Cambridge-Concord Highway at Pleasant Street.
- Attleboro — Washington Street over tracks of New York, New Haven and Hartford Railroad.
- Ayer — West Main Street over tracks of Boston and Maine Railroad.
- Belchertown — Granby Road over tracks of Boston and Maine Railroad and tracks of Central Vermont Railroad. Bondsville Road over Reservoir Outlet, over canal, and over tracks of Boston and Maine Railroad.
- Boston — Viaduct over tracks of Midland Division of New York, New Haven and Hartford Railroad, Neponset River, and River Street connecting Neponset River Parkway with the proposed extension of Canterbury Street; grade separations on proposed Clarendon Hills Parkway at Hyde Park Avenue, over tracks of the New York, New Haven and Hartford Railroad, and Poplar Street. East Boston Tunnel Road over road and proposed tracks of Boston and Maine Railroad near Orient Heights. Grade separation at Huntington Avenue and

- the Riverway. Relocation of highway at Pauls Bridge over Neponset River.
- Brookline — Grade separation on Worcester Turnpike at Brookline Village and at Cypress Street.
- Cambridge — Traffic Circle at Junction of Alewife Brook Parkway and Cambridge-Concord highway.
- Clarksburg — Extension to arch over Hoosic River.
- Cohasset — Proposed bridge over tracks of New York, New Haven and Hartford Railroad, near Black Rock Station.
- Colrain — Center bridge over East Branch of North River.
- Concord — Bridges on Cambridge-Concord highway over Concord River and over tracks of Boston and Maine Railroad.
- Conway — Bridges on Deerfield Road over Mill River.
- Dartmouth — At Westport Factory over Noquochoke Lake.
- Deerfield — Extensions to bridges on Conway Road over Mill River.
- Great Barrington — North Plain Road over Williams River.
- Hinsdale — Middlefield Road over Housatonic River.
- Lakeville — Taunton Road at Middleborough line over Poquay Trout Brook.
- Lawrence — Salem Turnpike over Shawsheen River.
- Lexington — Grade separation of proposed Cambridge-Concord highway and Waltham Street.
- Lincoln — South Great Road over tracks of Boston and Maine Railroad.
- Littleton — State highway over tracks of Boston and Maine Railroad.
- Lynn — Point of Pines bridge over Saugus River at the Revere line.
- Newbury — Newburyport Turnpike over tracks of Boston and Maine Railroad.
- Newton — Worcester Turnpike over Hammond Pond Parkway.
- Oxford — Webster Road under tracks of New York, New Haven and Hartford Railroad; Webster Road over Taft Brook.
- Pittsfield — Lebanon Avenue over tracks of Boston and Albany Railroad and over Shaker Brook.
- Quincy — Washington Street over Weymouth Fore River, at Weymouth line.
- Raynham — Taunton Turnpike over Taunton River, over Haskins Brook and over Damlot Brook.
- Revere — East Boston Tunnel Road over oil pipe corridor and over Revere Beach Parkway and Winthrop Avenue, over highway and tracks of Boston and Maine Railroad. Traffic Road at Point of Pines over tracks of Boston, Revere Beach and Lynn Railroad and private property. Highway under Parkway near Eliot Circle.
- Templeton — Phillipston Road over Crow Hill Brook.
- Waltham — Main Street over tracks of Boston and Maine Railroad at Beaver Brook Station.
- Weymouth — Main Street over tracks of New York, New Haven and Hartford Railroad.
- Winchester — Grade separation of highway and tracks of Boston and Maine Railroad.
- Yarmouth — West Yarmouth Road over Parkers River.

Examinations, Reports, Estimates, etc., at Request of Counties, Cities and Towns

- Amesbury — Chain Bridge over Merrimack River; examination and report of condition.
- Amesbury — Essex-Merrimac Bridge over Merrimac River; examination and report of condition.
- Amherst — Meadow Street Bridge, North Amherst; examination and estimate for a new bridge.
- Ashland — Howe Street over Indian Brook; examination and estimate for a new bridge.
- Bedford — Middlesex Turnpike over Shawsheen River; examination and advice on strength of bridge under construction.

- Chester — Main Street over West Branch of Westfield River; examination and estimate of repairs to bridge.
- Conway — Bardwell's Bridge over Deerfield River; examination and estimate for repairs.
- Framingham — Herbert Street over Beaver Dam Brook; examination and estimate for reconstruction of bridge.
- Gill — At Montague line over Connecticut River; examination and advice on repairs to bridge.
- Greenfield — Site of Smead Bridge; estimate for new bridge.
- Millville — Central Street over Blackstone River; examination and estimate for new bridge.

*Examinations, Reports, Estimates, etc., by direction of the Department
Cities and Towns, Locality and Subject*

- Boston — Commonwealth Pier heating plant; advice on boiler installation.
- Boston — D Street garage of Department; investigation of floor design.
- Boston — New building for Public Works Department; investigation of design of basement floor.
- Colrain — Center Bridge over East Branch of North River; estimate for cost of reconstruction.
- Dighton — At the Taunton line over Three Mile River; estimate for widening bridge.
- Marshfield — State highway over South River; estimate for widening bridge.
- Newburyport — At the Salisbury line over Merrimack River; estimate for repairs to bridge.

Bridge Plans Submitted and Examined during the Year under the provisions of Chapter 85, General Laws, as amended by Chapter 313 of Acts of 1923

- Athol — Reconstruction of bridge on Chestnut Street over Mill Brook; reinforced concrete arch, 13-foot span.
- Concord — Repairs and additions to the three-arch bridge on Elm Street over Concord River.
- Fall River — Extension of Third Street Bridge over Quequechan River.
- Haverhill — Reconstruction of Country Bridge over East Meadow Brook; one 17-foot span.
- Haverhill — Reconstruction of North Avenue Bridge over Snow's Brook; Brook; one 12-foot span.
- Haverhill — Reconstruction of Brandy Brow Bridge over East Meadow one 13-foot span.
- Hingham — At the Weymouth line; alterations to Back River Bridge.
- Pittsfield — Bridge on West Housatonic Street over Southwest Branch of Housatonic River; one 28-foot span, steel stringer with concrete floor.
- Winchendon — George M. Whitney Memorial Bridge over Millers River; two 24-foot spans and one 26-foot span, reinforced concrete arches.
- Worcester — Southbridge Street Bridge over Blackstone River; two spans, steel stringer bridge.

*Examinations, Studies, Estimates and Reports by direction of
Acts and Resolves of the Legislature*

- Chapter 450, Acts of 1931, Section 8. This section of the Act directs the department of public works "to make surveys and prepare plans and estimates of cost of a grade separation by means of an overpass at the intersection of the Riverway and Huntington Avenue in the City of Boston". Preliminary plans and estimates have been made.
- Chapter 241, Acts of 1932. "An Act providing for the construction of a new bridge over the Saugus river between the Point of Pines in the city of Revere and the city of Lynn". Plans and specifications have been completed.

- Chapter 258, Acts of 1932, Section 1. This section directs the department to lay out and construct a state highway "including any necessary alterations to the bridge at Beach Street, crossing the tracks of said railroad", referring to the Boston and Maine Railroad. The contract for the work has been awarded and construction work has started.
- Chapter 302, Acts of 1932. "An Act authorizing the laying out of a State highway extending from Alewife Brook Parkway in the city of Cambridge westerly through said city and the towns of Arlington, Belmont, Lexington, Lincoln and Concord." Preliminary studies for bridges in Concord have been made.
- Chapter 25, Resolves of 1932. "Resolves providing for an investigation and study by the department of public works of traffic conditions on a portion of the Fall River-New Bedford highway." The report has been filed with the clerk of the house of representatives.
- Chapter 27, Resolves of 1932. "Resolve providing for an investigation by the department of public works relative to the advisability of further dredging Lynn Harbor and Saugus River and of widening draws in bridges over said river." The report has been filed with the clerk of the house of representatives.
- Chapter 32, Resolves of 1932. "Resolve providing for the making and preparation by the department of public works of surveys, estimates, plans and specifications for the construction of a new high level bridge over the Weymouth Fore River between the city of Quincy and the town of Weymouth." The report has been filed with the clerk of the senate.

BRIDGE OVER THE MERRIMACK RIVER BETWEEN NEWBURYPORT AND SALISBURY

This bridge was placed in charge of the Massachusetts Highway Commission and made a State highway by the provisions of Chapter 716, Acts of 1912, which also provided that the expense of keeping the bridge in good repair for travel, of operating the draw and of maintaining the structure shall be paid by the Commonwealth.

The number of draw openings during the year ending Nov. 30, 1932, was 220. In 1931 the number of such openings was 415; in 1930 the number was 335: In 1929 the number was 383.

The total expenditure during the year was \$6,839.12.

The total expenditure from 1912 to Nov. 30, 1932, inclusive, was \$178,461.68.

BRIDGE OVER TAUNTON RIVER BETWEEN FALL RIVER AND SOMERSET

This bridge was placed in charge of the Massachusetts Highway Commission and made a State highway by the provisions of Chapter 717, Acts of 1912, which also provided that the expense of keeping the bridge in good repair for travel, and for operating the draw and maintaining the structure shall be paid by the Commonwealth.

Repairs made in 1932 consisted of driving steel sheeting at channel and repairs to foundations and fender piers.

The number of draw openings during the year ending Nov. 30, 1932, was 1,662. In 1931 the number of such openings was 1,700; in 1930 the number was 1,812; in 1929 the number was 1,789.

The total expenditure during the year was \$13,225.34.

The total expenditure from 1912 to Nov. 30, 1932, inclusive, was \$354,914.88.

BRIDGE OVER THE ACUSHNET RIVER BETWEEN CITY OF NEW BEDFORD AND THE TOWN OF FAIRHAVEN

This bridge, which was placed in charge of the Department of Public Works and made a State highway by the provisions of Chapter 406, Acts

of 1930, which also provided that the expense of keeping the bridge in good repair for travel, operating the draw and of maintaining the structure shall be paid by the Commonwealth, was taken over by the Department on June 27, 1930.

Repairs made in 1932 consisted of driving steel sheeting at channel and repairs to foundations and fender piers.

Averaged over a period of years, the draw openings have numbered more than 2,900 annually.

The number of draw openings while in charge of the Department beginning June 27, 1930, and ending Nov. 30, 1932, was 1,069. In 1931 the number of such openings was 2,564; and in 1932 the number was 2,384.

The total expenditure during the year was \$18,176.50.

The total expenditure while in charge of the Department has been \$51,004.99.

CONSTRUCTION OF TOWNS AND COUNTY WAYS

(Section 34, Chapter 90, General Laws, as revised and amended)

During the year the Department has contracted for work to be done in the towns / cities named in the following table, which also shows the type of road, the length contracted for, and the allotments or contributions by the State, towns / cities and counties:

COUNTIES AND TOWNS	State	CONTRIBUTIONS Town	County	Type of road	Length con- tracted for (Feet)
<i>Barnstable County</i>					
Mashpee	\$1,600 00	—	\$1,600 00	Grading	2,400
<i>Berkshire County</i>					
Adams	8,000 00	\$3,000 00	8,000 00	Gravel and tar	4,000
Alford	6,000 00	2,500 00	3,500 00	Bridge and approaches	—
Becket	1,000 00	500 00	500 00	Gravel	900
Becket	2,000 00	1,000 00	1,000 00	Gravel	1,200
Becket	1,000 00	500 00	500 00	Gravel	575
Becket	1,250 00	625 00	625 00	Gravel (widening)	7,392
Cheshire	8,000 00	4,000 00	4,000 00	Gravel	5,200
Clarksburg	1,000 00	500 00	500 00	Gravel	900
Egremont	3,200 00	1,600 00	1,600 00	Stone retread	7,000
Florida	4,000 00	4,000 00	—	Gravel	2,550
Great Barrington	15,000 00	15,000 00	—	Bituminous macadam	6,600
Hancock	12,500 00	500 00	2,000 00	Bituminous macadam	2,600
Hancock	1,350 00	500 00	—	Oiling	37,200
Hancock	1,000 00	500 00	1,000 00	Gravel	850
Hinsdale	3,250 00	500 00	1,250 00	Bridge and approaches	—
Lanesborough	4,000 00	2,000 00	2,000 00	Stone retread	2,800
Lee	10,000 00	10,000 00	10,000 00	2 Bridges	—
Lenox	15,000 00	20,000 00	—	Bituminous macadam	2,907
Monterey	5,000 00	3,500 00	3,500 00	Stone retread	13,483
Mount Washington	1,500 00	500 00	1,000 00	Gravel	750
New Marlborough	1,875 00	1,250 00	1,000 00	Stone retread	5,500
New Marlborough	1,875 00	1,250 00	1,000 00	Stone retread	5,150
New Marlborough	3,750 00	2,500 00	2,000 00	Stone retread	10,300
New Marlborough	1,000 00	1,000 00	1,000 00	Gravel	2,400
Otis	4,000 00	500 00	4,000 00	Gravel	1,900
Otis	2,000 00	500 00	1,000 00	Gravel	975
Pittsfield	12,000 00	12,000 00	12,000 00	Bituminous macadam	6,793
Richmond	2,500 00	1,000 00	1,500 00	Gravel	1,750
Sandisfield	4,000 00	2,000 00	2,000 00	Gravel	3,220
Savoy	22,500 00	—	7,500 00	Stone and tar mixed in place and 2 bridges	4,113
Sheffield	3,000 00	2,000 00	1,500 00	Gravel	2,179
Stockbridge	20,000 00	20,000 00	10,000 00	Bituminous macadam	9,916
Tyringham	4,000 00	2,000 00	2,000 00	Stone retread	2,650
Washington	4,000 00	2,000 00	2,000 00	Gravel	2,150
West Stockbridge	6,000 00	3,000 00	3,000 00	Stone retread	2,860
Williamstown	2,000 00	4,000 00	—	Gravel	1,650
Windsor	1,000 00	500 00	500 00	Gravel and hardpan	400
Windsor	1,000 00	500 00	500 00	Gravel	525
<i>Bristol County</i>					
Berkley	1,000 00	1,000 00	1,000 00	Gravel	910
Berkley	1,000 00	1,000 00	—	Repairs and oiling	47,800
Dartmouth	2,500 00	15,000 00	2,500 00	Bridge and approaches	—
Freetown	1,000 00	1,000 00	—	Repairs and oiling	63,300
Norton	3,000 00	1,000 00	2,000 00	Gravel	1,200
Rehoboth	5,000 00	5,000 00	5,000 00	Bituminous macadam	3,000
Swansea	6,000 00	6,000 00	6,000 00	Bituminous macadam	4,450
Westport	4,000 00	4,000 00	4,000 00	Bituminous macadam	1,750

COUNTIES AND TOWNS	State	CONTRIBUTIONS Town	County	Type of road	Length con- tracted for (Feet)
<i>Dukes County</i>					
Oak Bluffs	22,500 00	7,500 00	—	Bituminous concrete	6,670
Tisbury	17,500 00	8,750 00	8,750 00	Bituminous concrete	8,300
<i>Essex County</i>					
Boxford	1,000 00	1,000 00	—	Repairs and oiling	20,000
Boxford	1,000 00	1,000 00	—	Repairs and widening	1,800
Methuen	10,000 00	20,000 00	—	Bituminous macadam	5,600
Newbury	600 00	1,200 00	—	Bridge and approaches	—
Rowley	500 00	500 00	—	Repairs and oiling	11,000
<i>Franklin County</i>					
Ashfield	1,000 00	1,000 00	—	Gravel	1,000
Ashfield	2,000 00	1,000 00	1,000 00	Gravel	1,700
Buckland	6,000 00	5,000 00	1,000 00	Gravel	7,200
Charlemont	2,000 00	1,000 00	1,000 00	Stone retread	4,000
Colrain	1,000 00	1,000 00	—	Gravel	600
Colrain	2,000 00	1,000 00	1,000 00	Bituminous macadam	1,100
Conway	3,000 00	2,000 00	1,000 00	Gravel	2,100
Deerfield	4,300 00	3,000 00	1,000 00	Bituminous macadam	2,300
Gill	2,965 00	670 00	—	Repairs and oiling	35,631
Gill	2,000 00	1,000 00	1,000 00	Gravel	1,500
Greenfield	7,000 00	6,000 00	1,000 00	Stone and tar mixed in place	8,500
Greenfield-Montague	5,000 00	—	3,500 00	Bridge repairs	—
Hawley	1,400 00	700 00	700 00	Gravel	700
Hawley	1,200 00	700 00	500 00	Gravel	1,800
Heath	2,000 00	1,000 00	1,000 00	Gravel	1,650
Leverett	2,000 00	1,000 00	1,000 00	Gravel	3,700
Leverett	500 00	500 00	—	Oiling	5,000
Leyden	2,000 00	1,000 00	1,000 00	Gravel	1,500
Monroe	1,400 00	700 00	700 00	Gravel	4,000
New Salem	2,500 00	1,500 00	1,000 00	Repairs and oiling	31,152
New Salem	1,000 00	1,000 00	—	Gravel	1,150
Northfield	2,000 00	1,000 00	1,000 00	Gravel and tar	7,400
Northfield	6,000 00	11,000 00	1,000 00	Bridge repairs	—
Orange	1,550 00	1,400 00	700 00	Gravel	2,570
Orange	600 00	600 00	300 00	Oiling	12,672
Rowe	2,000 00	1,000 00	1,000 00	Gravel	1,350
Shelburne	4,000 00	3,000 00	1,000 00	Bituminous macadam	2,000
Shelburne	1,000 00	1,000 00	—	Repairs and oiling	11,616
Shutesbury	3,000 00	2,000 00	1,000 00	Gravel	6,600
Sunderland	4,000 00	1,000 00	1,000 00	Bituminous macadam	1,740
Warwick	2,000 00	1,000 00	1,000 00	Gravel	1,400
Warwick	1,500 00	1,500 00	—	Gravel	1,000
Wendell	4,000 00	3,000 00	1,000 00	Gravel	1,800
Wendell	1,500 00	1,500 00	—	Repairs and oiling	19,008
<i>Hampden County</i>					
Agawam	14,000 00	14,000 00	14,000 00	Bituminous macadam	8,406
Blandford	11,500 00	2,000 00	11,500 00	Bituminous macadam	3,462
Blandford	2,000 00	500 00	2,000 00	Stone retread	8,400
Brimfield	4,000 00	2,000 00	4,000 00	Gravel and tar	4,900
Brimfield	300 00	200 00	300 00	Repairs and oiling	21,455
Chester	1,500 00	500 00	1,500 00	Stone retread	3,000 00
Chester	3,200 00	800 00	3,200 00	Gravel	1,100
Chester	4,000 00	800 00	4,000 00	Stone retread	5,400
Chester	—	200 00	8,000 00	Stone retread	3,850
Chicopee	30,000 00	17,000 00	13,000 00	Stone and tar mixed in place	21,319
East Longmeadow	4,000 00	2,000 00	4,000 00	Bituminous macadam	4,096
Granville	5,500 00	3,000 00	5,500 00	Bridge—gravel and tar	2,073
Granville	2,000 00	2,000 00	2,000 00	Gravel and tar	1,800
Hampden	2,000 00	1,000 00	2,000 00	Concrete	2,000
Hampden	4,000 00	2,000 00	4,000 00	Bituminous macadam	2,452
Holland	500 00	500 00	500 00	Repairs and oiling	13,746
Holland	3,200 00	800 00	3,200 00	Gravel and tar	2,050
Ludlow	4,900 00	4,900 00	4,900 00	Bituminous macadam	3,900
Ludlow	500 00	500 00	500 00	Repairs and gravel	6,336
Ludlow	2,000 00	2,000 00	2,000 00	Gravel and tar	2,250
Montgomery	3,000 00	1,000 00	3,000 00	Gravel	2,250
Russell	285 00	285 00	285 00	Repairs and oiling	3,625
Southwick	8,000 00	8,000 00	8,000 00	Bituminous macadam	1,400
Tolland	4,000 00	2,000 00	4,000 00	Bridge and approach	—
Wales	2,000 00	1,000 00	2,000 00	Gravel and tar	2,004
Wales	250 00	250 00	250 00	Repairs and oiling	6,350
West Springfield	8,000 00	8,000 00	8,000 00	Bituminous macadam	3,900
Westfield	2,000 00	2,000 00	2,000 00	Gravel	1,920
Westfield	1,000 00	1,000 00	1,000 00	Bituminous macadam	2,650
Westfield	—	8,500 00	17,000 00	Bituminous macadam	6,153
Wilbraham	4,000 00	4,000 00	4,000 00	Bituminous macadam	3,200
Wilbraham	1,000 00	1,000 00	1,000 00	Gravel retread	2,300
Wilbraham	4,000 00	1,000 00	4,000 00	Stone retread	3,000

COUNTIES AND TOWNS

CONTRIBUTIONS

	State	Town	County	Type of road	Length contracted for (Feet)
<i>Hampshire County</i>					
Belchertown	16,250 00	3,750 00	5,000 00	Bituminous macadam	5,960
Chesterfield	4,000 00	1,000 00	1,500 00	Stone retread	7,400
Chesterfield	1,000 00	500 00	500 00	Gravel	800
Chesterfield	1,000 00	500 00	500 00	Gravel	671
Cummington	3,000 00	1,500 00	1,500 00	Gravel	1,450
Cummington	1,000 00	500 00	500 00	Gravel	800
Cummington	400 00	200 00	200 00	Repairs	-
Easthampton	9,000 00	9,000 00	6,000 00	Bituminous macadam	5,600
Enfield	1,000 00	500 00	500 00	Repairs and oiling	18,480
Goshen	1,000 00	500 00	500 00	Gravel	550
Goshen	1,000 00	500 00	500 00	Gravel	750
Granby	2,000 00	1,000 00	1,000 00	Bituminous macadam	1,200
Granby	4,000 00	2,000 00	2,000 00	Bituminous macadam	1,396
Greenwich	2,000 00	1,000 00	1,000 00	Repairs and oiling	26,928
Huntington	2,000 00	1,000 00	1,000 00	Gravel	1,200
Middlefield	7,000 00	1,000 00	2,000 00	Stone retread	2,900
Middlefield	600 00	300 00	300 00	Gravel	375
Middlefield	600 00	300 00	300 00	Gravel	525
Middlefield	400 00	200 00	200 00	Gravel	300
Northampton	5,000 00	5,000 00	3,000 00	Bituminous macadam	5,760
Pelham	1,000 00	500 00	500 00	Gravel	1,000
Pelham	6,800 00	1,200 00	4,000 00	Bituminous macadam	3,350
Plainfield	8,000 00	1,000 00	3,000 00	Gravel and tar	2,730
South Hadley	18,000 00	9,000 00	9,000 00	Bituminous macadam	6,255
South Hadley	750 00	375 00	375 00	Sidewalk	600
Southampton	1,000 00	500 00	500 00	Stone retread	2,000
Ware	2,000 00	1,000 00	1,000 00	Repairs and oiling	11,101
Ware	1,000 00	1,000 00	-	Repairs	32,221
Westhampton	1,500 00	750 00	750 00	Gravel	1,300
Westhampton	6,000 00	800 00	800 00	Gravel	12,700
Williamsburg	6,500 00	1,000 00	2,500 00	Gravel and tar	11,635
Worthington	3,000 00	1,500 00	1,500 00	Gravel	1,650

Middlesex County

Acton	1,300 00	1,300 00	1,300 00	Repairs and oiling	91,840
Acton	2,500 00	2,500 00	2,500 00	Gravel	4,190
Acton	2,500 00	2,500 00	2,500 00	Gravel	2,500
Arlington	11,000 00	11,000 00	11,000 00	Bituminous concrete	4,060
Arlington	4,000 00	4,000 00	4,000 00	Reinforced cement concrete	978
Ashby	1,000 00	500 00	1,000 00	Repairs and oiling	17,952
Ashland	2,000 00	2,000 00	2,000 00	Repairs and oiling	22,176
Ashland	2,300 00	2,300 00	2,300 00	Gravel and tar	400
Ashland	700 00	700 00	700 00	Gravel	1,200
Ayer	1,500 00	1,500 00	1,500 00	Gravel	3,000
Ayer	2,500 00	2,500 00	2,500 00	Repairs and oiling	24,050
Bedford	2,300 00	2,300 00	2,300 00	Repairs and oiling	46,464
Belmont	18,000 00	18,000 00	18,000 00	Bituminous macadam	4,764
Billerica	4,500 00	4,500 00	4,500 00	Gravel	1,650
Billerica	2,000 00	2,000 00	2,000 00	Repairs and oiling	63,360
Billerica	2,000 00	2,000 00	2,000 00	Bridge	-
Boxborough	1,000 00	500 00	1,000 00	Gravel	1,400
Boxborough	750 00	750 00	750 00	Oiling	34,584
Boxborough	1,000 00	500 00	1,000 00	Gravel	1,400
Burlington	3,000 00	3,000 00	3,000 00	Gravel	4,500
Burlington	2,500 00	2,500 00	2,500 00	Gravel	4,250
Burlington	1,500 00	2,000 00	1,500 00	Repairs and oiling	52,800
Carlisle	1,500 00	1,500 00	1,500 00	Repairs and oiling	64,644
Chelmsford	3,000 00	3,000 00	3,000 00	Bituminous macadam	3,950
Chelmsford	800 00	800 00	800 00	Gravel	1,605
Chelmsford	1,000 00	1,000 00	1,000 00	Repairs and oiling	8,976
Chelmsford	1,000 00	1,000 00	1,000 00	Repairs and oiling	78,672
Concord	1,500 00	7,500 00	1,500 00	Bridge	-
Dunstable	2,000 00	1,000 00	2,000 00	Repairs and oiling	15,300
Dunstable	1,750 00	1,750 00	1,750 00	Repairs and oiling	49,104
Framingham	5,000 00	5,000 00	5,000 00	Bridge and approaches	-
Framingham	4,500 00	4,500 00	4,500 00	Bituminous macadam	1,450
Groton	3,500 00	3,500 00	3,500 00	Repairs and oiling	44,880
Groton	3,000 00	3,000 00	3,000 00	Gravel	3,500
Holliston	1,500 00	1,500 00	1,500 00	Repairs and oiling	46,992
Hopkinton	4,000 00	2,000 00	4,000 00	Bituminous macadam	2,200
Hopkinton	2,000 00	2,000 00	2,000 00	Oiling	64,888
Hudson	2,000 00	2,000 00	2,000 00	Bituminous macadam	550
Hudson	1,500 00	1,500 00	1,500 00	Repairs and oiling	22,440
Lexington	3,000 00	3,000 00	3,000 00	Bituminous macadam	2,900
Lincoln	1,200 00	1,200 00	1,200 00	Repairs and oiling	52,800
Littleton	2,000 00	2,000 00	2,000 00	Repairs and oiling	48,040
Littleton	1,000 00	1,000 00	1,000 00	Gravel and tar	2,000
Littleton	1,000 00	1,000 00	1,000 00	Gravel	1,800
Lowell	6,000 00	6,000 00	6,000 00	Bituminous macadam	2,180
				Gravel	8,050
Malden	20,000 00	40,000 00	20,000 00	Reinforced cement concrete	3,747
Natick	5,000 00	5,000 00	5,000 00	Bituminous macadam	3,100
Newton	35,000 00	75,000 00	30,000 00	Reinforced cement concrete and bituminous concrete	12,460
North Reading	3,000 00	3,000 00	3,000 00	Bituminous macadam	3,200

COUNTIES AND TOWNS	State	CONTRIBUTIONS Town	County	Type of road	Length con- tracted for (Feet)
<i>Middlesex County — Continued</i>					
North Reading	2,000 00	2,000 00	2,000 00	Repairs and oiling	52,272
Pepperell	3,000 00	3,000 00	3,000 00	Repairs and oiling	68,640
Pepperell	4,000 00	4,000 00	4,000 00	Gravel and tar	3,625
Reading	7,000 00	7,000 00	7,000 00	Reinforced cement concrete	1,005
Sherborn	10,000 00	5,000 00	10,000 00	Bituminous macadam	5,000
Sherborn	4,000 00	2,000 00	4,000 00	Gravel	4,450
Sherborn	2,000 00	2,000 00	2,000 00	Repairs and oiling	71,280
Shirley	1,000 00	1,000 00	1,000 00	Repairs and oiling	51,216
Stoneham	4,800 00	4,800 00	4,800 00	Bituminous macadam	2,050
Stow	1,500 00	1,500 00	1,500 00	Repairs and oiling	41,184
Sudbury	3,000 00	3,000 00	3,000 00	Repairs and oiling	79,728
Tewksbury	1,000 00	1,000 00	1,000 00	Repairs and oiling	31,680
Tewksbury	750 00	750 00	750 00	Gravel	3,150
Tewksbury	1,500 00	1,500 00	1,500 00	Gravel	3,500
Townsend	1,500 00	1,500 00	1,500 00	Repairs and oiling	37,488
Townsend	6,000 00	2,000 00	4,000 00	Gravel	6,000
Tyngsborough	2,000 00	1,000 00	2,000 00	Repairs and oiling	58,080
Tyngsborough	2,000 00	2,000 00	2,000 00	Gravel and tar	2,800
Tyngsborough	2,000 00	1,000 00	2,000 00	Gravel	2,800
Watertown	10,000 00	10,000 00	10,000 00	Bituminous macadam	3,200
Wayland	4,000 00	4,000 00	4,000 00	Repairs and oiling	48,576
Wayland	12,000 00	12,000 00	12,000 00	Bituminous macadam	8,000
Westford	6,000 00	6,000 00	6,000 00	Repairs and oiling	107,712
Westford	2,000 00	2,000 00	2,000 00	Gravel	3,600
Westford	2,000 00	2,000 00	2,000 00	Gravel	3,500
Wilmington	2,000 00	2,000 00	2,000 00	Gravel and tar	3,400
Wilmington	750 00	750 00	750 00	Repairs and oiling	23,232
Wilmington	1,500 00	1,500 00	1,500 00	Bridge	—
<i>Norfolk County</i>					
Bellingham	2,650 00	1,325 00	1,325 00	Repairs and oiling	23,700
Franklin	2,000 00	2,000 00	2,000 00	Gravel and tar	2,050
Franklin	4,000 00	4,000 00	4,000 00	Gravel	4,450
Medway	1,000 00	1,000 00	1,000 00	Repairs and oiling	32,270
Millis	1,000 00	1,000 00	1,000 00	Bituminous macadam	4,900
Millis	700 00	700 00	700 00	Gravel	400
Norfolk	1,500 00	1,500 00	1,500 00	Repairs and oiling	45,665
Norfolk	1,250 00	500 00	1,250 00	N.Y.N.H.&H.R.R. Gravel	\$1,250 1,125
Plainville	4,000 00	2,000 00	2,000 00	Gravel and tar	4,624
Walpole	1,250 00	1,500 00	1,250 00	N.Y.N.H.&H.R.R. Gravel	\$1,250 1,000
Weymouth	300 00	300 00	300 00	Drainage	—
<i>Plymouth County</i>					
Bridgewater	4,000 00	2,500 00	2,500 00	Gravel	5,050
Carver	500 00	1,000 00	500 00	Bituminous concrete	530
Halifax	5,000 00	2,500 00	2,500 00	Gravel	7,200
Hanson	10,000 00	5,000 00	5,000 00	Bituminous macadam	3,800
Lakeville	1,000 00	500 00	500 00	Grading and oiling	8,450
Marshfield	5,000 00	7,000 00	5,000 00	Bituminous macadam	4,614
Middleborough	7,500 00	7,500 00	7,500 00	Gravel	17,100
Pembroke	2,500 00	6,000 00	3,000 00	Gravel	6,100
Plympton	4,000 00	2,000 00	2,000 00	Gravel	6,300
Rochester	8,000 00	4,000 00	4,000 00	Gravel	10,350
Rockland	8,000 00	4,000 00	4,000 00	Bituminous macadam	2,340
<i>Worcester County</i>					
Ashburnham	12,000 00	7,500 00	10,500 00	Gravel and tar	10,667
Ashburnham	900 00	750 00	900 00	Repairs and oiling	21,067
Athol	1,000 00	1,000 00	1,000 00	Repairs and oiling	28,353
Berlin	2,500 00	1,000 00	2,500 00	Repairs and oiling	43,085
Berlin	5,500 00	3,500 00	5,500 00	Gravel and tar	3,013
Berlin	500 00	500 00	500 00	Gravel	700
Blackstone	2,000 00	2,000 00	2,000 00	Gravel and tar	2,400
Blackstone	700 00	700 00	700 00	Repairs and oiling	17,320
Blackstone	4,000 00	4,000 00	4,000 00	Gravel and tar	5,950
Bolton	5,000 00	1,000 00	5,000 00	Bituminous macadam	2,300
Bolton	1,000 00	500 00	1,000 00	Repairs and oiling	11,722
Boylston	1,000 00	500 00	1,000 00	Repairs and oiling	46,574
Boylston	2,500 00	500 00	2,500 00	Gravel	3,050
Brookfield	1,400 00	700 00	1,400 00	Repairs and oiling	21,912
Dana	1,800 00	500 00	1,800 00	Gravel and tar	1,700
Dana	2,500 00	1,000 00	2,500 00	Repairs and oiling	61,269
Gardner	5,000 00	10,000 00	5,000 00	Bituminous macadam	2,620
Hardwick	3,000 00	3,000 00	3,000 00	Bituminous macadam	1,494
Hardwick	1,300 00	1,300 00	1,300 00	Repairs and oiling	40,656
Harvard	1,000 00	500 00	1,000 00	Repairs and oiling	18,216
Holden	1,000 00	1,000 00	1,000 00	Repairs and oiling	84,123
Hubbardston	4,000 00	2,000 00	4,000 00	Gravel	3,300
Hubbardston	1,000 00	500 00	1,000 00	Gravel and tar	1,350
Hubbardston	1,000 00	500 00	1,000 00	Repairs and oiling	43,455
Leominster	1,900 00	1,900 00	1,900 00	Gravel and tar	1,972
Lunenburg	13,500 00	2,700 00	10,800 00	Gravel and tar	8,076
Lunenburg	2,000 00	1,000 00	2,000 00	Repairs and oiling	25,977

COUNTIES AND TOWNS	State	CONTRIBUTIONS Town	County	Type of road	Length con- tracted for (Feet)
<i>Worcester County — Continued</i>					
Lunenburg	2,500 00	—	2,500 00	Gravel	1,550
Mendon	2,200 00	1,100 00	2,200 00	Gravel and tar	2,900
Mendon	1,000 00	500 00	1,000 00	Repairs and oiling	21,264
Milford	20,000 00	20,000 00	20,000 00	Cement concrete	4,133
Millville	3,000 00	1,500 00	3,000 00	Gravel and tar	2,800
New Braintree	1,000 00	500 00	1,000 00	Repairs and oiling	38,277
New Braintree	3,000 00	1,500 00	3,000 00	Gravel and tar	8,601
North Brookfield	3,000 00	3,000 00	3,000 00	Gravel and tar	3,418
North Brookfield	700 00	700 00	700 00	Repairs and oiling	10,615
Northbridge	4,000 00	4,000 00	4,000 00	Gravel and tar	3,850
Northbridge	2,000 00	2,000 00	2,000 00	Gravel and tar	3,300
Northbridge	2,500 00	2,500 00	2,500 00	Gravel and tar	790
Oakham	3,000 00	1,500 00	3,000 00	Repairs and oiling	38,461
Oakham	1,100 00	800 00	1,100 00	Gravel and tar	3,600
Paxton	4,000 00	2,000 00	4,000 00	Gravel and tar	2,700
Paxton	1,200 00	600 00	1,200 00	Repairs and oiling	30,384
Petersham	1,500 00	1,500 00	1,500 00	Repairs and oiling	34,024
Phillipston	500 00	500 00	500 00	Repairs and oiling	25,660
Phillipston	4,500 00	1,000 00	4,500 00	Gravel	3,050
Princeton	2,000 00	1,000 00	2,000 00	Gravel and tar	5,050
Princeton	3,000 00	—	3,000 00	Grading	2,250
Princeton	2,000 00	1,000 00	2,000 00	Repairs and oiling	1,250
Royalston	2,200 00	1,300 00	2,200 00	Oiling	70,940
Royalston	500 00	500 00	500 00	Gravel	36,590
Rutland	4,000 00	2,000 00	4,000 00	Gravel and tar	19,113
Rutland	2,000 00	1,000 00	2,000 00	Repairs and oiling	3,450
Shrewsbury	300 00	300 00	300 00	Repairs and oiling	30,624
Southborough	300 00	300 00	300 00	Repairs and oiling	3,800
Spencer	500 00	500 00	500 00	Repairs and oiling	21,120
Sterling	4,000 00	2,000 00	4,000 00	Repairs and oiling	26,928
Sterling	4,000 00	2,000 00	4,000 00	Gravel and tar	6,259
Sterling	2,000 00	1,000 00	2,000 00	Gravel	6,150
Sturbridge	2,000 00	1,000 00	2,000 00	Repairs and oiling	44,252
Sturbridge	2,000 00	1,000 00	2,000 00	Gravel and tar	2,550
Sturbridge	1,400 00	700 00	1,400 00	Gravel and tar	1,100
Sutton	1,200 00	600 00	1,200 00	Repairs and oiling	16,157
Sutton	5,000 00	2,500 00	5,000 00	Gravel and tar	5,000
Templeton	1,400 00	1,400 00	1,400 00	Repairs and oiling	39,772
Upton	4,000 00	2,000 00	4,000 00	Repairs and oiling	3,550
Upton	400 00	200 00	400 00	Gravel and tar	—
Warren	3,000 00	2,500 00	3,000 00	Culvert	—
West Boylston	1,000 00	800 00	1,000 00	Gravel and tar	5,100
West Boylston	250 00	250 00	250 00	Repairs and oiling	31,152
West Brookfield	2,000 00	1,000 00	2,000 00	Repairs and oiling	31,152
Westborough	800 00	800 00	800 00	Gravel and tar	2,550
Westminster	2,500 00	1,250 00	2,500 00	Repairs and oiling	46,929
Westminster	2,000 00	1,250 00	2,000 00	Gravel and tar	3,450
Westminster	2,500 00	1,250 00	2,500 00	Repairs and oiling	28,984
Westminster	500 00	250 00	500 00	Grading and drainage	4,805
Westminster	500 00	250 00	500 00	Gravel and tar	250

EXPENDITURES FOR CONSTRUCTION OF TOWN AND COUNTY WAYS

The expenditures during the year in various Counties were:—

Barnstable, \$17,369.74	Hampshire, \$302,614.05
Berkshire, \$259,124.91	Middlesex, \$341,988.90
Bristol, \$31,126.33	Nantucket, \$1,943.35
Dukes, \$34,555.57	Norfolk, \$62,044.90
Essex, \$60,097.93	Plymouth, \$72,287.36
Franklin, \$106,715.41	Worcester, \$252,209.22
Hampden, \$286,042.29	Total, \$1,828,119.96

Details of the foregoing expenditures follow:—

Barnstable County.—Barnstable, \$1,909.91; Bourne \$15,459.83.

Berkshire County.—Adams, \$9,196.07; Alford, \$4,931.73; Becket, \$6,313.20; Cheshire, \$8,368.30; Clarksburg, \$1,262.64; Egremont, \$4,040.45; Florida, \$5,046.74; Great Barrington, \$32,366.70; Hancock, \$15,956.03; Hinsdale, \$3,907.98; Lanesboro, \$5,050.11; Lee, \$7,618.62; Lenox, \$18,939.61; Monterey, \$18,055.12; Mount Washington, \$1,893.96; New Marlboro, \$10,683.52; Otis, \$7,432.41; Peru, \$2,523.33; Pittsfield, \$11,247.54; Richmond, \$3,156.60; Sandisfield, \$5,050.52; Savoy, \$22,584.41; Sheffield, \$3,787.92; Stockbridge, \$24,628.95; Tyringham, \$5,050.56; Washington, \$5,050.55; West Stockbridge, \$9,932.14; Williamstown, \$2,524.27; Windsor, \$2,524.93.

Bristol County.—Attleboro, \$5,209.10; Berkley, \$2,260.28; Dartmouth,

\$1,713.14; Freetown, \$1,262.64; Norton, \$3,787.92; Rehoboth, \$6,002.80; Seekonk, \$936.66; Swansea, \$4,903.23; Westport, \$5,050.56.

Dukes County.—Oak Bluffs, \$15,151.69; Tisbury, \$19,403.88.

Essex County.—Boxford, \$2,525.28; Danvers, \$1,131.00; Georgetown, \$6,518.41; Hamilton, \$118.10; Lynnfield, \$1,947.33; Marblehead, \$2,110.24; Methuen, \$6,734.08; Newbury, \$8,492.87; Newburyport, \$3,391.33; Rowley, \$6,589.28; Salisbury, \$2,209.96; Saugus, \$6,659.77; Topsfield, \$7,021.82; Wenham, \$4,631.11; West Newbury, \$17.35.

Franklin County.—Ashfield, \$3,786.85; Buckland, \$7,575.85; Charlemont, \$2,525.28; Colrain, \$3,787.71; Conway, \$3,787.93; Deerfield, \$5,422.87; Gill, \$6,210.88; Greenfield, \$10,013.99; Hawley, \$3,282.87; Heath, \$2,522.39; Leverett, \$3,156.60; Leydon, \$2,525.28; Monroe, \$1,767.69; Montague, \$1,175.50; New Salem, \$4,419.24; Northfield, \$9,894.09; Orange, \$2,714.68; Rowe, \$2,525.28; Shelburne, \$6,313.20; Shutesbury, \$3,787.92; Sunderland, \$8,155.56; Warwick, \$4,419.23; Wendell, \$6,944.52.

Hampden County.—Agawam, \$14,595.22; Blandford, \$16,847.43; Brimfield, \$5,429.35; Chester, \$10,984.76; Chicopee, \$123,568.28; East Longmeadow, \$5,050.56; Granville, \$5,764.57; Hampden, \$7,575.85; Holland, \$4,981.66; Holyoke, \$1,262.64; Ludlow, \$9,337.30; Montgomery, \$3,787.85; Palmer, \$124.28; Russell, \$359.86; Southwick, \$6,121.34; Springfield, \$41,550.39; Tolland, \$4,879.95; Wales, \$2,589.36; Westfield, \$3,787.92; West Springfield, \$8,053.52; Wilbraham, \$9,390.20.

Hampshire County.—Amherst, \$2,050.47; Belchertown, \$95,132.40; Chesterfield, \$11,321.58; Cummington, \$5,333.97; Easthampton, \$11,363.76; Enfield, \$1,260.59; Goshen, \$2,525.28; Granby, \$7,575.85; Greenwich, \$2,525.28; Hadley, \$3,129.67; Huntington, \$2,524.59; Middlefield, \$10,857.73; Northampton, \$6,313.20; Pelham, \$10,027.39; Plainfield, \$23,844.99; Southampton, \$1,262.65; South Hadley, \$26,495.80; Ware, \$61,088.87; Westhampton, \$1,893.96; Williamsburg, \$12,298.85; Worthington, \$3,787.17.

Middlesex County.—Acton, \$7,954.64; Arlington, \$17,190.02; Ashby, \$1,262.64; Ashland, \$7,246.66; Ayer, \$5,050.56; Bedford, \$4,166.63; Belmont, \$17,058.92; Billerica, \$9,749.31; Boxboro, \$3,441.06; Burlington, \$8,772.32; Carlisle, \$1,893.96; Chelmsford, \$6,694.89; Concord, \$2,290.91; Dunstable, \$4,734.26; Framingham, \$12,867.28; Groton, \$8,194.27; Holliston, \$4,345.97; Hopkinton, \$7,575.42; Hudson, \$4,474.87; Lexington, \$2,525.28; Lincoln, \$2,208.98; Littleton, \$5,050.09; Lowell, \$4,660.37; Malden, \$15,362.12; Melrose, \$3,056.06; Natick, \$6,287.22; Newton, \$37,879.22; North Reading, \$6,313.16; Pepperell, \$8,708.71; Reading, \$7,402.35; Sherborn, \$20,507.29; Shirley, \$4,040.93; Stoneham, \$5,888.76; Stow, \$1,893.96; Sudbury, \$3,787.58; Tewksbury, \$4,355.86; Townsend, \$9,621.32; Tyngsboro, \$7,575.85; Wakefield, \$302.17; Watertown, \$10,521.99; Wayland, \$20,966.21; Westford, \$13,110.15; Wilmington, \$4,998.68.

Nantucket County.—Nantucket, \$1,943.35.

Norfolk County.—Avon, \$1,673.99; Bellingham, \$3,345.97; Canton, \$2,799.33; Franklin, \$13,418.83; Holbrook, \$1,438.95; Medway, \$5,618.02; Millis, \$5,364.77; Needham, \$2,467.82; Norfolk, \$2,509.31; Norwood, \$1,312.15; Plainville, \$7,787.05; Randolph, \$3,353.78; Sharon, \$3,420.30; Walpole, \$778.57; Westwood, \$4,238.18; Wrentham, \$2,517.88.

Plymouth County.—Bridgewater, \$5,084.54; Carver, \$631.32; Halifax, \$10,852.05; Hanson, \$12,121.15; Hingham, \$4,575.85; Lakeville, \$1,262.64; Middleboro, \$10,071.55; Pembroke, \$3,156.60; Plympton, \$5,599.51; Rochester, \$7,817.91; Rockland, \$11,114.24.

Worcester County.—Ashburnham, \$20,698.52; Athol, \$1,262.64; Barre, \$1,042.37; Berlin, \$7,454.10; Blackstone, \$8,759.38; Bolton, \$9,202.02; Boylston, \$1,262.64; Brookfield, \$2,749.11; Charlton, \$123.18; Dana, \$4,985.20; Fitchburg, \$15,016.08; Gardner, \$6,313.20; Grafton, \$383.01; Hardwick, \$5,429.35; Holden, \$1,262.36; Hubbardston, \$6,321.69; Leicester, \$2,898.86; Leominster, \$1,309.49; Lunenburg, \$15,667.28; Mendon, \$3,082.52; Milford, \$18,686.49; Millville, \$296.89; New Braintree, \$4,161.

04; North Brookfield, \$4,921.75; Northboro, \$4,159.92; Northbridge, \$13,-763.70; Oakham, \$5,173.14; Oxford, \$4.21; Paxton, \$4,898.85; Petersham, \$1,893.93; Phillipston, \$8,882.52; Princeton, \$11,436.67; Royalston, \$5,-629.09; Rutland, \$6,796.37; Shrewsbury, \$378.79; Southboro, \$378.73; Spencer, \$614.05; Sterling, \$9,078.11; Sturbridge, \$3,775.12; Sutton, \$10,-633.66; Templeton, \$1,766.20; Upton, \$4,983.43; Warren, \$2,626.99; West Brookfield, \$1,482.45; Westboro, \$3,360.01; Westminster, \$7,204.11.

REPAIR AND IMPROVEMENT OF PUBLIC WAYS, EXCLUSIVE OF STATE
HIGHWAYS, IN CERTAIN TOWNS

(Sections 26 to 29 and 31 of chapter 81, General Laws, as amended.)

During the year the Department contracted for work to be done in the towns named in the following table, which also shows the road mileage in the towns and the allotments or contributions by the State and towns:—

Counties and Towns	Miles Of Road	Allotment State	Town
<i>Barnstable County:</i>			
Brewster	40	\$4,000 00	\$4,000 00
Dennis	79	7,900 00	7,900 00
Eastham	41	4,100 00	3,075 00
Mashpee	27	2,700 00	2,025 00
Sandwich	67	6,700 00	6,700 00
Truro	28	2,800 00	3,500 00
Wellfleet	35	3,500 00	4,375 00
<i>Berkshire County:</i>			
Alford	19	1,900 00	760 00
Becket	58	5 800 00	2,320 00
Cheshire	42	4,200 00	4,200 00
Clarksburg	14	1,400 00	2,100 00
Egremont	32	3,200 00	2,400 00
Florida	43	4,300 00	3,225 00
Hancock	30	3,000 00	1,200 00
Hinsdale	35	3,500 00	2,625 00
Lanesborough	42	4,200 00	3,150 00
Monterey	52	5,200 00	2,080 00
Mount Washington	20	2,000 00	500 00
New Ashford	9	900 00	360 00
New Marlborough	85	8,500 00	3,400 00
Otis	48	4,800 00	1,200 00
Peru	37	3,700 00	555 00
Richmond	34	3,400 00	1,700 00
Sandisfield	79	7,900 00	1,185 00
Savoy	56	5,600 00	840 00
Sheffield	77	7,700 00	3,850 00
Tyringham	25	2,500 00	1,000 00
Washington	51	5,100 00	765 00
West Stockbridge	36	3,600 00	2,700 00
Windsor	65	6,500 00	975 00
<i>Bristol County:</i>			
Berkley	42	4,200 00	2,100 00
Freetown	47	4,700 00	3,525 00
Norton	56	5,600 00	5,600 00
Raynham	45	4,500 00	4,500 00
Rehoboth	109	10,900 00	5,450 00
Swansea	55	5,500 00	8,250 00

Counties and Towns	Miles Of Road	Allotment	
		State	Town
<i>Dukes County:</i>			
Chilmark	14	1,400 00	1,400 00
West Tisbury	13	1,300 00	1,950 00
<i>Essex County:</i>			
Boxford	52	5,200 00	2,600 00
Essex	21	2,100 00	3,150 00
Georgetown	34	3,400 00	4,250 00
Groveland	29	2,900 00	3,625 00
Merrimac	31	3,100 00	4,650 00
Middleton	30	3,000 00	4,500 00
Newbury	37	3,700 00	4,625 00
Rowley	31	3,100 00	3,100 00
Topsfield	38	3,800 00	5,700 00
West Newbury	37	3,700 00	2,775 00
<i>Franklin County:</i>			
Ashfield	81	8,100 00	3,240 00
Bernardston	40	4,000 00	3,000 00
Buckland	45	4,500 00	5,625 00
Charlemont	49	4,900 00	2,450 00
Colrain	84	8,400 00	3,360 00
Conway	72	7,200 00	2,880 00
Deerfield	82	8,200 00	10,250 00
Gill	34	3,400 00	2,550 00
Hawley	49	4,900 00	735 00
Heath	53	5,300 00	795 00
Leverett	38	3,800 00	1,520 00
Leydon	39	3,900 00	585 00
Monroe	18	1,800 00	2,250 00
Northfield	66	6,600 00	4,950 00
New Salem	64	6,400 00	960 00
Rowe	41	4,100 00	1,640 00
Shelburne	48	4,800 00	6,000 00
Shutesbury	40	4,000 00	1,000 00
Sunderland	34	3,400 00	2,550 00
Warwick	55	5,500 00	825 00
Wendell	48	4,800 00	2,400 00
Whately	40	4,000 00	3,000 00
<i>Hampden County:</i>			
Blandford	75	7,500 00	1,875 00
Brimfield	59	5,900 00	2,950 00
Chester	66	6,600 00	3,300 00
Granville	73	7,300 00	5,475 00
Hampden	34	3,400 00	1,700 00
Holland	30	3,000 00	450 00
Monson	101	10,100 00	7,575 00
Montgomery	27	2,700 00	675 00
Southwick	50	5,000 00	5,000 00
Tolland	41	4,100 00	615 00
Wales	25	2,500 00	1,000 00
Wilbraham	43	4,300 00	6,450 00
<i>Hampshire County:</i>			
Belchertown	115	11,500 00	4,600 00
Chesterfield	59	5,900 00	1,475 00
Cummington	49	4,900 00	1,225 00
Enfield	37	3,700 00	1,480 00

Counties and Towns	Miles Of Road	Allotment	
		State	Town
<i>Hampshire County—Continued</i>			
Goshen	28	2,800 00	700 00
Granby	48	4,800 00	2,400 00
Greenwich	39	3,900 00	1,560 00
Hadley	58	5,800 00	7,250 00
Hatfield	46	4,600 00	5,750 00
Huntington	40	4,000 00	3,000 00
Middlefield	40	4,000 00	600 00
Pelham	39	3,900 00	1,560 00
Plainfield	49	4,900 00	735 00
Prescott	39	3,900 00	585 00
Southampton	56	5,600 00	2,240 00
Westhampton	50	5,000 00	750 00
Williamsburg	43	4,300 00	3,225 00
Worthington	73	7,300 00	1,095 00
<i>Middlesex County:</i>			
Acton	58	5,800 00	8,700 00
Ashby	56	5,600 00	2,240 00
Ashland	38	3,800 00	5,700 00
Bedford	35	3,500 00	5,250 00
Boxborough	23	2,300 00	920 00
Burlington	34	3,400 00	5,100 00
Carlisle	42	4,200 00	3,150 00
Dracut	61	6,100 00	9,150 00
Dunstable	37	3,700 00	925 00
Groton	70	7,000 00	10,500 00
Holliston	50	5,000 00	7,500 00
Hopkinton	66	6,600 00	6,600 00
Lincoln	40	4,000 00	6,000 00
Littleton	42	4,200 00	5,250 00
North Reading	31	3,100 00	4,650 00
Pepperell	68	6,800 00	6,800 00
Sherborn	43	4,300 00	4,300 00
Shirley	46	4,600 00	4,600 00
Stow	45	4,500 00	3,375 00
Sudbury	64	6,400 00	4,800 00
Tewksbury	56	5,600 00	8,400 00
Townsend	70	7,000 00	5,250 00
Tyngsborough	40	4,000 00	3,000 00
Westford	85	8,500 00	10,625 00
<i>Norfolk County:</i>			
Bellingham	43	4,300 00	6,450 00
Medfield	40	4,000 00	6,000 00
Medway	44	4,400 00	6,600 00
Millis	39	3,900 00	5,850 00
Norfolk	41	4,100 00	4,100 00
Plainville	31	3,100 00	3,875 00
<i>Plymouth County:</i>			
Carver	68	6,800 00	6,800 00
Halifax	33	3,300 00	3,300 00
Hanson	36	3,600 00	5,400 00
Lakeville	41	4,100 00	3,075 00
Norwell	47	4,700 00	4,700 00
Pembroke	47	4,700 00	5,875 00
Plympton	30	3,000 00	1,500 00
Rochester	49	4,900 00	3,675 00

Counties and Towns	Miles	Allotment	
	Of Road	State	Town
<i>Worcester County:</i>			
Ashburnham	75	7,500 00	5,625 00
Barre	110	11,000 00	8,250 00
Berlin	39	3,900 00	2,925 00
Bolton	53	5,300 00	2,650 00
Boylston	41	4,100 00	2,050 00
Brookfield	37	3,700 00	3,700 00
Charlton	115	11,500 00	4,600 00
Dana	43	4,300 00	1,720 00
Douglas	70	7,000 00	5,250 00
Dudley	63	6,300 00	7,875 00
East Brookfield	19	1,900 00	2,375 00
Grafton	110	11,000 00	11,000 00
Hardwick	96	9,600 00	7,200 00
Harvard	56	5,600 00	5,600 00
Holden	77	7,700 00	7,700 00
Hubbardston	75	7,500 00	1,875 00
Lancaster	58	5,800 00	7,250 00
Leicester	66	6,600 00	8,250 00
Lunenburg	67	6,700 00	5,025 00
Mendon	36	3,600 00	3,600 00
New Braintree	49	4,900 00	1,225 00
North Brookfield	69	6,900 00	6,900 00
Northborough	47	4,700 00	4,700 00
Oakham	45	4,500 00	1,125 00
Oxford	66	6,600 00	8,250 00
Paxton	29	2,900 00	2,175 00
Petersham	71	7,100 00	3,550 00
Phillipston	41	4,100 00	1,025 00
Princeton	72	7,200 00	2,880 00
Royalston	67	6,700 00	1,675 00
Rutland	68	6,800 00	3,400 00
Southborough	48	4,800 00	7,200 00
Spencer	100	10,000 00	12,500 00
Sterling	72	7,200 00	5,400 00
Sturbridge	66	6,600 00	3,300 00
Sutton	84	8,400 00	4,200 00
Templeton	62	6,200 00	7,750 00
Upton	60	6,000 00	4,500 00
Warren	71	7,100 00	8,875 00
West Boylston	35	3,500 00	5,250 00
West Brookfield	53	5,300 00	3,975 00
Westborough	57	5,700 00	8,550 00
Westminster	77	7,700 00	3,080 00

EXPENDITURES FOR REPAIR AND IMPROVEMENT OF PUBLIC WAYS

The expenditures during the year in various Counties were:—

Barnstable, \$34,536.29	Hampden, \$68,277.18
Berkshire, \$101,530.10	Hampshire, \$99,029.87
Bristol, \$37,823.51	Middlesex, \$122,825.28
Dukes, \$2,690.18	Norfolk, \$26,016.75
Essex, \$54,927.03	Plymouth, \$38,008.84
Franklin, \$117,068.59	Worcester, \$290,630.59
	Total, \$993,364.21

Details of the foregoing expenditures follow:—

Barnstable County.—Brewster, \$4,405.36; Dennis, \$8,909.10; Eastham, \$4,328.84; Mashpee, \$3,038.93; Sandwich, \$6,613.50; Truro, \$3,078.28; Wellfleet, \$3,905.79; Yarmouth, \$256.49.

Berkshire County.—Alford, \$2,076.97; Becket, \$5,919.74; Cheshire, \$4,434.62; Clarksburg, \$1,470.27; Egremont, \$3,718.04; Florida, \$4,651.01; Hancock, \$2,880.48; Hinsdale, \$3,903.89; Lanesboro, \$4,522.07; Monterey, \$4,961.23; Mount Washington, \$1,784.01; New Ashford, \$1,716.46; New Marlboro, \$7,698.07; Otis, \$5,259.95; Peru, \$4,065.72; Richmond, \$3,696.11; Sandisfield, \$7,825.11; Savoy, \$6,897.38; Sheffield, \$5,008.12; Tyringham, \$3,021.08; Washington, \$4,931.96; West Stockbridge, \$4,674.52; Windsor, \$6,413.29.

Bristol County.—Berkley, \$3,717.53; Freetown, \$5,137.76; Norton, \$6,121.59; Raynham, \$4,919.13; Rehoboth, \$11,915.23; Swansea, \$6,012.27;

Dukes County.—Chilmark, \$1,269.10; West Tisbury, \$1,421.08.

Essex County.—Boxford, \$6,676.37; Essex, \$4,591.19; Georgetown, \$7,433.36; Groveland, \$3,716.68; Merrimac, \$3,498.05; Middleton, \$3,643.81; Newbury, \$7,979.92; Rowley, \$4,310.79; Topsfield, \$4,987.62; West Newbury, \$8,089.24.

Franklin County.—Ashfield, \$9,127.52; Bernardston, \$4,372.53; Buckland, \$5,001.08; Charlemont, \$5,356.31; Colrain, \$8,663.14; Conway, \$6,586.17; Deerfield, \$8,936.42; Gill, \$3,334.08; Hawley, \$5,356.39; Heath, \$5,793.65; Leverett, \$4,150.03; Leydon, \$4,263.25; Monroe, \$1,967.65; New Salem, \$6,750.14; Northfield, \$7,105.41; Rowe, \$4,481.88; Shelburne, \$4,153.93; Shutesbury, \$4,370.05; Sunderland, \$3,552.71; Warwick, \$6,012.27; Wendell, \$4,509.21; Whately, \$3,224.77.

Hampden County.—Blandford, \$6,870.77; Brimfield, \$6,633.89; Chester, \$8,301.63; Granville, \$7,979.93; Hampden, \$3,771.34; Holland, \$3,334.47; Monson, \$11,044.12; Montgomery, \$3,242.30; Southwick, \$5,465.70; Tolland, \$4,434.97; Wales, \$2,825.50; Wilbraham, \$4,372.56.

Hampshire County.—Belchertown, \$12,489.13; Chesterfield, \$6,612.00; Cummington, \$5,356.39; Enfield, \$3,962.46; Goshen, \$3,060.79; Granby, \$5,137.76; Greenwich, \$4,071.95; Hadley, \$6,394.77; Hatfield, \$3,853.32; Huntington, \$4,388.40; Middlefield, \$4,725.99; Pelham, \$4,399.89; Plainfield, \$5,356.39; Prescott, \$4,782.49; Southampton, \$6,121.59; Westhampton, \$5,465.70; Williamsburg, \$4,809.71; Worthington, \$8,041.14.

Middlesex County.—Acton, \$6,340.22; Ashby, \$6,121.59; Ashland, \$4,153.93; Bedford, \$3,825.99; Boxboro, \$2,514.23; Burlington, \$3,716.68; Carlisle, \$4,591.19; Dunstable, \$4,044.62; Groton, \$7,651.98; Holliston, \$5,465.70; Hopkinton, \$5,531.29; Lincoln, \$4,372.56; Littleton, \$4,591.19; North Reading, \$3,388.74; Pepperell, \$7,433.36; Sherborn, \$4,700.50; Shirley, \$5,028.45; Stow, \$4,919.13; Sudbury, \$6,996.10; Tewksbury, \$6,121.59; Townsend, \$7,651.98; Tyngsboro, \$4,372.56; Westford, \$9,291.70.

Norfolk County.—Bellingham, \$4,700.50; Medfield, \$4,372.56; Medway, \$4,809.82; Millis, \$4,263.25; Norfolk, \$4,481.88; Plainville, \$3,388.74.

Plymouth County.—Carver, \$7,310.33; Halifax, \$3,313.11; Hanson, \$3,774.43; Lakeville, \$4,481.70; Norwell, \$5,322.93; Pembroke, \$5,018.22; Plympton, \$3,216.69; Rochester, \$5,377.70; West Bridgewater, \$193.73.

Worcester County.—Ashburnham, \$8,198.15; Barre, \$12,036.39; Berlin, \$4,263.25; Bolton, \$5,772.44; Boylston, \$4,118.71; Brookfield, \$3,631.60; Charlton, \$13,060.62; Dana, \$4,700.50; Douglas, \$7,779.39; East Brookfield, \$2,076.76; Grafton, \$12,024.55; Hardwick, \$10,570.56; Harvard, \$6,121.59; Holden, \$8,355.22; Hubbardston, \$8,213.61; Lancaster, \$6,340.22; Leicester, \$7,003.03; Lunenburg, \$7,071.02; Mendon, \$3,935.27; New Braintree, \$5,312.95; North Brookfield, \$7,606.01; Northborough, \$5,137.76; Oakham, \$5,292.00; Oxford, \$7,301.37; Paxton, \$2,836.62; Petersham, \$7,761.30; Phillipston, \$4,481.88; Princeton, \$7,754.51; Royalston, \$7,324.04; Rutland, \$7,433.36; Southborough, \$4,442.43; Spencer, \$10,868.32; Sterling, \$8,087.37; Sturbridge, \$7,203.49; Sutton, \$8,881.99; Templeton, \$7,097.29; Upton, \$8,762.95; Warren, \$7,165.21; West Boylston, \$3,825.99; West Brookfield, \$5,865.69; Westborough, \$6,498.00; Westminster, \$8,417.18.

CONTRACTS FOR THE CONSTRUCTION AND RECONSTRUCTION OF STATE HIGHWAYS IN ANTICIPATION OF APPROPRIATIONS

In Nov. 1932, preparations were made for advertising contracts under the provisions of section 27, chapter 29, General Laws, as amended and revised, for work to be done in various localities, preliminary to the making of contracts involving the expenditure by the Commonwealth of not exceeding \$1,100,000. The making of these contracts as aforesaid was approved by the Governor and Council on Dec. 7, 1932.

HIGHWAY IMPROVEMENTS AUTHORIZED BY SPECIAL ACTS

Contracts were entered into during the year, as follows, for the construction of State highways in the towns of Needham and Wellesley in accordance with the provisions of chapter 420 of the Acts of 1930, as amended by chapter 454 of the Acts of 1931, and in the city of Revere in accordance with the provisions of chapter 445 of the Acts of 1931, as amended by chapter 258 of the Acts of 1932:

Needham-Wellesley

Feb. 2, 1932, contract made with John F. Rooney & Company, of Milford, for constructing a reinforced concrete arch rigid frame bridge in Needham under Highland Avenue and a steel plate girder railroad bridge in Needham over the tracks of the New York, New Haven & Hartford Railroad, and constructing about 19,306 feet of State highway on Greendale Avenue, new location and Reservoir Street in Needham and Wellesley; the surface consisting of sections of bituminous macadam constructed on each side of a loam space, and sections of bituminous concrete. The proposal amounted to \$231,095.35. Work about nine-tenths completed. Expenditure during 1932, \$221,003.12.

Revere

Nov. 15, 1932, contract made with Coleman Bros., Incorporated, of Boston, for constructing a deck plate girder and reinforced concrete beam bridge on Beach Street over the tracks of the Boston and Maine Railroad, and constructing about 4,800 feet of State highway on Beach Street; the surface except over the railroad tracks consisting of two roadways of bituminous macadam separated by a center section of loam, and the surface over the bridge consisting of bituminous concrete. The proposal amounted to \$188,807.34. Work just commenced. Expenditure during 1932, \$935.27.

TRAFFIC CONTROL SIGNALS

The following contracts were entered into this year for furnishing and installing traffic control signals:

Somerset.—Jan. 19, 1932, contract made with the Automatic Signal Corporation of Massachusetts, of Wellesley. The proposal amounted to \$2,912.00. Work completed Mar. 24, 1932. Expenditure during 1932, \$2,192.00.

Framingham.—Feb. 9, 1932, contract made with the Eagle Signal Corporation, of Boston. The proposal amounted to \$4,221.00. Work completed May 26, 1932. Expenditure during 1932, \$4,251.00.

North Andover.—May 10, 1932, contract made with the Automatic Signal Corporation of Massachusetts, of Wellesley. The proposal amounted to \$2,179.00. Work completed July 15, 1932. Expenditure during 1932, \$2,179.00.

Canton.—May 17, 1932, contract made with the Automatic Signal Corporation of Massachusetts, of Wellesley. The proposal amounted to \$1,794.00. Work completed July 26, 1932. Expenditure during 1932, \$1,794.00.

Easton.—May 17, 1932, contract made with the Automatic Signal Corporation of Massachusetts, of Wellesley. The proposal amounted to \$1,888.00. Work completed July 7, 1932. Expenditure during 1932, \$1,888.00.

Milford.—May 31, 1932, contract made with the Davis-Chase Electric Co., of Brockton. The proposal amounted to \$715.00. Work completed Aug. 10, 1932. Expenditure during 1932, \$715.00.

Watertown.—July 26, 1932, contract made with The Equipment Company, of Boston. The proposal amounted to \$850.00. Work completed Aug. 19, 1932. Expenditure during 1932, \$850.00.

Canton.—July 26, 1932, contract made with the Eagle Signal Corporation, of Boston. The proposal amounted to \$566.00. Work completed Aug. 31, 1932. Expenditure during 1932, \$566.00.

Weymouth.—July 26, 1932, contract made with the Eagle Signal Corporation, of Boston. The proposal amounted to \$2,799.00. Work completed Oct. 1, 1932. Expenditure during 1932, \$2,799.00.

Andover.—Aug. 9, 1932, contract made with the Automatic Signal Corporation of Massachusetts, of Wellesley. The proposal amounted to \$2,397.00. Work completed Oct. 27, 1932. Expenditure during 1932, \$2,397.00.

Hingham.—Aug. 9, 1932, contract made with Kenworthy & Taylor, Inc., of Everett. The proposal amounted to \$848.00. Work completed Aug. 18, 1932. Expenditure during 1932, \$848.00.

Quincy.—Sept. 13, 1932, contract made with The Niles Company, of Lowell. The proposal amounted to \$1,150.00. Work completed Nov. 19, 1932. Expenditure during 1932, Nothing.

ERECTION OF NEW OFFICE BUILDING

In accordance with the provisions of chapter 122 of the Acts of 1931 the following contract was entered into:

Boston.—December 8, 1931, contract made with the F. V. Warren Co., of Philadelphia, Pa., for the erection of an office building for the Department of Public Works of the Commonwealth of Massachusetts. The proposal amounted to \$1,307,811.00. Work about 75% completed. Expenditure during 1932, \$955,959.05.

D STREET GARAGE

In connection with the construction of a new garage at D Street, South Boston, the following contracts were entered into:

September 27, 1932, contract made with Thibeau & Comeau, of Cambridge, for constructing a garage at D Street, South Boston. The proposal amounted to \$41,571.00. Work practically completed. Expenditure during 1932, \$24,451.10.

Oct. 11, 1932, contract made with the Reliable Automatic Sprinkler Co. of New England, of Boston, for furnishing and installing a wet pipe system of automatic sprinklers at the D Street Garage, South Boston. The proposal amounted to \$3,650.00. Work practically completed. Expenditure during 1932 nothing.

Oct. 11, 1932, contract made with H. M. Haley Electric Company, Inc., of Boston, for furnishing and installing a system of electric wiring for garage at D Street, South Boston. The proposal amounted to \$2,784.00. Work not yet commenced.

Oct. 25, 1932, contract made with the Acme Heating and Ventilating Company, of Boston, for furnishing and installing a heating system for the garage at D Street, South Boston. The proposal amounted to \$8,824.00. Work just commenced. Expenditure during 1932, \$1,880.20.

DISTRIBUTION OF A CERTAIN PROPORTION OF THE GAS TAX, AS PROVIDED UNDER CHAPTER 122, SECTION 4, ACTS OF 1931, AS AMENDED BY CHAPTER 243, ACTS OF 1932

Distribution as follows:—

Abington, \$5,349.07; Acushnet, \$3,048.40; Adams, \$10,985.73; Agawam, \$7,879.82; Amesbury, \$9,777.88; Amherst, \$7,764.78; Andover, \$15,011.91; Arlington, \$50,212.27; Athol, \$10,007.94; Attleborough, \$22,259.05;

Auburn, \$5,349.07; Avon, \$1,955.58; Ayer, \$3,163.43; Barnstable, \$17,772.73; Belmont, \$36,465.72; Beverly, \$38,881.43; Billerica, \$7,592.23; Blackstone, \$2,300.68; Boston, \$1,484,396.52; Bourne, \$7,189.61; Braintree, \$20,821.12; Bridgewater, \$5,406.59; Brockton, \$68,387.61; Brookline, \$128,895.40; Cambridge, \$161,219.91; Canton, \$7,649.75; Chatham, \$4,371.29; Chelmsford, \$5,464.11; Chelsea, \$45,553.40; Chicopee, \$38,076.20; Clinton, \$11,906.00; Cohasset, \$8,109.89; Concord, \$7,994.85; Dalton, \$5,349.07; Danvers, \$10,928.21; Dartmouth, \$9,605.32; Dedham, \$20,188.44; Dighton, \$3,566.05; Dover, \$2,990.88; Duxbury, \$5,464.11; East Bridgewater, \$4,486.32; East Longmeadow, \$3,335.98; Easthampton, \$8,397.47; Easton, \$5,061.49; Edgartown, \$3,681.08; Erving, \$1,898.06; Everett, \$59,645.04; Fairhaven, \$10,410.56; Fall River, \$103,818.03; Falmouth, \$16,162.25; Fitchburg, \$47,508.97; Foxborough, \$5,119.01; Framingham, \$28,931.01; Franklin, \$7,879.82; Gardner, \$20,245.95; Gay Head, \$115.03; Gloucester, \$32,497.06; Gosnold, \$977.79; Great Barrington, \$7,994.85; Greenfield, \$22,431.60; Hamilton, \$4,371.29; Hanover, \$3,278.46; Harwich, \$4,486.32; Haverhill, \$50,384.82; Hingham, \$11,963.52; Holbrook, \$3,105.91; Holyoke, \$86,102.82; Hopedale, \$4,371.29; Hudson, \$6,441.89; Hull, \$13,056.34; Ipswich, \$6,154.31; Kingston, \$3,623.57; Lawrence, \$95,190.49; Lee, \$4,371.29; Lenox, \$5,003.97; Leominster, \$20,993.67; Lexington, \$16,679.91; Longmeadow, \$9,317.74; Lowell, \$98,468.96; Ludlow, \$7,304.65; Lynn, \$118,599.88; Lynnfield, \$2,760.81; Malden, \$60,737.86; Manchester, \$9,490.29; Mansfield, \$6,499.41; Marblehead, \$15,702.12; Marion, \$3,911.15; Marlborough, \$13,919.09; Marshfield, \$5,579.14; Mattapoisett, \$2,990.88; Maynard, \$5,866.73; Medford, \$67,179.76; Melrose, \$29,966.31; Methuen, \$17,370.11; Middleborough, \$7,764.78; Milford, \$13,286.41; Millbury, \$5,521.62; Millville, \$1,265.37; Milton, \$28,700.94; Montague, \$10,065.46; Nahant, \$4,486.32; Nantucket \$9,432.77; Natick, \$16,277.29; Needham, \$18,577.96; New Bedford, \$126,479.69; Newburyport, \$12,078.55; Newton, \$124,811.70; North Adams, \$20,360.99; North Andover, \$7,477.20; North Attleboro, \$9,145.19; Northampton, \$23,236.83; Northbridge, \$8,685.05; Norwood, \$22,316.56; Oak Bluffs, \$3,911.15; Orange, \$4,888.94; Orleans, \$3,048.40; Palmer, \$9,030.16; Peabody, \$21,913.94; Pittsfield, \$53,318.18; Plymouth, \$21,683.88; Provincetown, \$3,738.60; Quincy, \$103,703.00; Randolph, \$5,061.49; Reading, \$12,826.27; Revere, \$33,589.88; Rockland, \$7,189.61; Rockport, \$4,716.39; Russell, \$3,623.57; Salem, \$48,486.76; Salisbury, \$2,530.74; Saugus, \$12,538.69; Scituate, \$9,950.43; Seekonk, \$4,083.70; Sharon, \$5,176.52; Shrewsbury, \$7,477.20; Somerset, \$10,122.98; Somerville, \$104,450.72; South Hadley, \$6,729.48; Southbridge, \$10,928.21; Springfield, \$240,190.63; Stockbridge, \$4,256.25; Stoneham, \$12,481.17; Stoughton, \$7,937.33; Swampscott, \$20,245.95; Taunton, \$33,014.71; Tisbury, \$4,601.35; Uxbridge, \$6,441.89; Wakefield, \$18,750.51; Walpole, \$13,516.47; Waltham, \$47,508.97; Ware, \$5,809.21; Wareham, \$10,122.98; Watertown, \$44,920.71; Wayland, \$4,486.32; Webster, \$9,835.39; Wellesley, \$27,953.22; Wenham, \$2,875.85; West Bridgewater, \$4,875.00; West Springfield, \$23,409.38; Westfield, \$17,657.69; Weston, \$7,189.61; Westport, \$4,831.42; Westwood, \$3,911.15; Weymouth, \$37,558.54; Whitman, \$7,649.75; Williamstown, \$5,809.21; Wilmington, \$3,566.05; Winchendon, \$5,234.04; Winchester, \$24,962.34; Winthrop, \$20,706.09; Woburn, \$19,728.30; Worcester, \$276,368.77; Wrentham, \$5,375.00; Yarmouth, \$6,375.00. Total, \$5,500,000.00.

ADDITIONAL AMOUNTS PAID FROM GAS TAX IN ACCORDANCE WITH
PROVISIONS OF CHAPTER 122, SECTION 4, ACTS OF 1931, AS
AMENDED BY CHAPTER 243, ACTS OF 1932

Distribution to towns eligible for aid under the provisions of section 26, Chapter 81, Revised Laws, as amended, as follows:—

Acton, \$2,900.00; Alford, \$950.00; Ashburnham, \$3,750.00; Ashby, \$2,800.00; Ashfield, \$4,050.00; Ashland, \$1,900.00; Barre, \$5,500.00; Becket, \$2,900.00; Bedford, \$1,750.00; Belchertown, \$5,750.00; Bellingham, \$2,-

150.00; Berkley, \$2,100.00; Berlin, \$1,950.00; Bernardston, \$2,000.00; Blandford, \$3,750.00; Bolton, \$2,650.00; Boxboro, \$1,150.00; Boxford, \$2,600.00; Boylston, \$2,050.00; Brewster, \$2,000.00; Brimfield, \$2,950.00; Brookfield, \$1,850.00; Buckland, \$2,250.00; Burlington, \$1,700.00; Carlisle, \$2,100.00; Carver, \$3,400.00; Charlemont, \$2,450.00; Charlton, \$5,750.00; Cheshire, \$2,100.00; Chester, \$3,300.00; Chesterfield, \$2,950.00; Chilmark, \$700.00; Clarksburg, \$700.00; Colrain, \$4,200.00; Conway, \$3,600.00; Cummington, \$2,450.00; Dana, \$2,150.00; Deerfield, \$4,100.00; Dennis, \$3,950.00; Douglas, \$3,500.00; Dracut, \$3,050.00; Dudley, \$3,150.00; Dunstable, \$1,850.00; East Brookfield, \$950.00; Eastham, \$2,050.00; Egremont, \$1,600.00; Enfield, \$1,850.00; Essex, \$1,050.00; Florida, \$2,150.00; Freetown, \$2,350.00; Georgetown, \$1,700.00; Gill, \$1,700.00; Goshen, \$1,400.00; Grafton, \$5,500.00; Granby, \$2,400.00; Granville, \$3,650.00; Greenwich, \$1,950.00; Groton, \$3,500.00; Groveland, \$1,450.00; Hadley, \$2,900.00; Halifax, \$1,650.00; Hampden, \$1,700.00; Hancock, \$1,500.00; Hanson, \$1,800.00; Hardwick, \$4,800.00; Harvard, \$2,800.00; Hatfield, \$2,300.00; Hawley, \$2,450.00; Heath, \$2,650.00; Hinsdale, \$1,750.00; Holden, \$3,850.00; Holland, \$1,500.00; Holliston, \$2,500.00; Hopkinton, \$3,300.00; Hubbardston, \$3,750.00; Huntington, \$2,000.00; Lakeville, \$2,050.00; Lancaster, \$2,900.00; Lanesborough, \$2,100.00; Leicester, \$3,300.00; Leverett, \$1,900.00; Leyden, \$1,950.00; Lincoln, \$2,000.00; Littleton, \$2,100.00; Lunenburg, \$3,350.00; Mashpee, \$1,350.00; Medfield, \$2,000.00; Medway, \$2,200.00; Mendon, \$1,800.00; Merrimac, \$1,550.00; Middlefield, \$2,000.00; Middleton, \$1,500.00; Millis, \$1,950.00; Monroe, \$900.00; Monson, \$5,050.00; Monterey, \$2,600.00; Montgomery, \$1,350.00; Mount Washington, \$1,000.00; New Ashford, \$450.00; New Braintree, \$2,450.00; New Marlboro, \$4,250.00; New Salem, \$3,200.00; Newbury, \$1,850.00; Norfolk, \$2,050.00; North Brookfield, \$3,450.00; North Reading, \$1,550.00; Northboro, \$2,350.00; Northfield, \$3,300.00; Norton, \$2,800.00; Norwell, \$2,350.00; Oakham, \$2,250.00; Otis, \$2,400.00; Oxford, \$3,300.00; Paxton, \$1,450.00; Pelham, \$1,950.00; Pembroke, \$2,350.00; Pepperell, \$3,400.00; Peru, \$1,850.00; Petersham, \$3,550.00; Phillipston, \$2,050.00; Plainfield, \$2,450.00; Plainville, \$1,550.00; Plympton, \$1,500.00; Prescott, \$1,950.00; Princeton, \$3,600.00; Raynham, \$2,250.00; Rehoboth, \$5,450.00; Richmond, \$1,700.00; Rochester, \$2,450.00; Rowe, \$2,050.00; Rowley, \$1,550.00; Royalston, \$3,350.00; Rutland, \$3,400.00; Sandisfield, \$3,950.00; Sandwich, \$3,350.00; Savoy, \$2,800.00; Sheffield, \$3,850.00; Shelburne, \$2,400.00; Sherborn, \$2,150.00; Shirley, \$2,300.00; Shutesbury, \$2,000.00; Southampton, \$2,800.00; Southboro, \$2,400.00; Southwick, \$2,500.00; Spencer, \$5,000.00; Sterling, \$3,600.00; Stow, \$2,250.00; Sturbridge, \$3,300.00; Sudbury, \$3,200.00; Sunderland, \$1,700.00; Sutton, \$4,200.00; Swansea, \$2,750.00; Templeton, \$3,100.00; Tewksbury, \$2,800.00; Tolland, \$2,050.00; Topsfield, \$1,900.00; Townsend, \$3,500.00; Truro, \$1,400.00; Tyngsboro, \$2,000.00; Tyringham, \$1,250.00; Upton, \$3,000.00; Wales, \$1,250.00; Warren, \$3,550.00; Warwick, \$2,750.00; Washington, \$2,550.00; Wellfleet, \$1,750.00; Wendell, \$2,400.00; West Boylston, \$1,750.00; West Brookfield, \$2,650.00; West Newbury, \$1,850.00; West Stockbridge, \$1,800.00; West Tisbury, \$650.00; Westboro, \$2,850.00; Westford, \$4,250.00; Westhampton, \$2,500.00; Westminster, \$3,850.00; Whately, \$2,000.00; Wilbraham, \$2,150.00; Williamsburg, \$2,150.00; Windsor, \$3,250.00; Worthington, \$3,650.00. Total, \$459,150.00.

REGULATION OF ADVERTISING SIGNS AND DEVICES WITHIN THE PUBLIC VIEW

(Sections 29-33, chapter 93, General Laws, as amended)

In accordance with the provisions of sections 29 to 33 inclusive, Chapter 93, General Laws, as amended by chapters 85, 237, 334 and 490, Acts of 1924, providing for the control of billboards and other advertising devices on public ways or on private property within the public view of any highway, public park or reservation, the Department adopted on Jan. 24,

1924, certain new rules and regulations, superseding all former issues; and these have continued in force during the present year.

Applications, Licenses and Permits.—Licenses were granted to 26 individuals and others to engage in the business of advertising in the Commonwealth by the use of outdoor signs.

Of 365 applications received for permits for the erection of advertising signs, 227 permits have been granted; and 25 permits were granted on applications filed previous to 1932. Sixty-one applications for the erection of new signs were not approved because the locations were in violation of the rules and regulations adopted Jan. 24, 1924; and 16 applications for permits were cancelled.

Of 3,072 renewal applications sent to those whose permits were to expire June 30, 1932—2,645 were returned to the Department requesting renewal; and 300 requested that permits be cancelled. The number of renewal applications approved, to be in force, until June 30, 1933, was 2809. The total number of permits in force Nov. 30, 1932 was 2,968.

Receipts and Expenditures.—The total receipts for the year ending Nov. 30, 1932, were \$13,598.87 and the expenditures were \$15,049.38.

The Removal of Signs.—The "Sign Patrol" consisting of small trucks completely equipped for the work, have removed 100,000 signs during the year in addition to 3000 removed by other agents of the Department, under authority of section 30-A, chapter 93, General Laws.

Injunction.—On June 19, 1925, a temporary injunction was granted the General Outdoor Advertising Company, Inc., and others, as complainants enjoining and restraining the Commissioners, constituting the Department of Public Works, for the Commonwealth, until the further order of the Court, from proceeding in any way against them for any alleged failure to comply with the Rules and Regulations for the control and restriction of the billboards, signs and other devices, promulgated under date of Jan. 24, 1924. This injunction is still in force and will be until the case is settled in Court.

Hearings.—Hearings were given to officials of Winchester, Framingham and Fall River; to one licensed advertiser and to one property owner.

CONTRACT PRICES DEC. 1, 1931, TO NOV. 30, 1932

TOWN OR CITY	CONTRACTOR	EXCAVATION				Plain Conc. Masonry (Cu. Yd.)	Asphalt (Gals.)	Concrete Surf. (Cu. Yd.)
		Earth (Cu. Yd.)	Borrow (Cu. Yd.)	Ledge (Cu. Yd.)	Trench (Cu. Yd.)			
Alford.	G. Ferullo, Inc..	\$0 40	\$0 30	\$4 00	-	-	-	-
Amesbury & Salisbury.	G. Rotundi & Son	0 15	-	1 50	\$0 60	\$9 00	\$0 065	-
Andover	P. J. Holland	0 20	-	3 00	0 50	14 00	0 08	\$6 00
Arlington	J. P. McCabe	30	-	2 00	-	-	0 08	5 50
Arlington	A. G. Tomasello	30	-	3 00	-	-	-	5 50
Ashburnham	Rome Const. Co.	0 20	0 20	2 00	0 75	1 00	10	-
Auburn & Oxford	Frank & Frank Const. Co.	0 50	-	0 50	0 90	15 00	075	6 00
*Barnstable & Yarmouth	M. F. Roach & Sons, Inc.	0 13	0 13	0 13	0 55	10 00	0 095	-
Belchertown & Granby	Lane Const. Co.	0 20	0 20	1 50	0 50	12 00	0 08	-
*Belchertown	Rome Const. Co.	0 20	0 20	1 00	0 70	10 00	0 07	-
Beverly	Welch & Moynihan	0 18	-	0 18	0 50	12 00	0 07	-
Billerica & Chelmsford	Central Const. Co.	0 20	-	3 00	0 50	12 00	0 07	-
Blackstone, Millville & Uxbridge	John F. Kennedy & Co.	0 20	-	5 00	0 60	14 00	0 07	-
Bourne & Falmouth	Thos. J. McCue	0 18	0 20	0 50	0 60	8 00	0 06	-
Charlton	Perini & Ampollini	0 50	-	0 50	0 50	14 00	0 08	-
*Cohasset & Hingham	V. Barletta Co.	0 70	0 25	0 70	1 00	10 00	0 06	-
Dartmouth	Chas. I. Hosmer	0 20	0 23	1 00	-	-	-	-
Dighton & Taunton	Jas. H. Kerr	0 20	0 20	2 00	0 50	10 00	0 06	-
Dedham, Norwood, Westwood.	Arute Bros.	0 15†	-	2 00	0 40	10 00	0 06	5 00
Edgartown & Oak Bluffs	O. W. Miller	0 50	0 50	1 00	-	-	-	-
Egremont	J. M. Kelley Co.	0 50	0 20	2 00	0 75	-	0 08	-
Fall River & Somerset	H. C. Hanson	-	-	-	-	-	-	-
Framingham	E. Iacozzi.	-	-	5 00	-	-	-	-
Granville & Tolland	Albany Bridge Works	-	-	1 00	-	-	-	-
Hancock	D. J. Walsh	0 25	0 50	1 00	0 75	12 00	0 09	-
*Hancock & Pittsfield	Lane Const. Co.	0 35	-	0 35	1 00	12 00	0 075	5 75
Hanson	Arute Bros.	0 25	-	3 00	0 50	14 00	0 07	-
Hingham & Norwell	Arute Bros.	0 25	-	1 00	0 50	15 00	0 20	5 40
Hingham	Nat. Gunite Contr. Co.	-	-	-	-	-	-	-
*Ipswich	Greenough Con. Co.	0 12	0 05	1 50	0 80	10 00	0 06	-
Lee	Lee Cons. Co., Inc.	-	-	1 50	-	-	-	-
Lee & Stockbridge	Crane Con. Co.	0 17	-	2 00	0 60	10 00	0 07	-
Lenox	Edgewood Conc. Co.	0 25	-	0 25	0 90	-	0 085	-
Lenox & Pittsfield.	N. H. Road Const. Co., Inc.	0 50	-	0 50	0 90	12 00	0 085	4 90
Leominster & Lunenburg	G. Bonazzoli & Sons	0 30	0 25	0 30	0 50	11 50	0 095	-
Littleton	Greenough Cons. Co.	0 20	0 20	-	0 80	15 00	0 07	-
Marshfield	Ellsworth H. Lewis	0 15	0 15	2 00	0 50	10 00	0 07	-
Mendon	Jos. DeVries & Son	0 20	0 20	3 00	1 00	15 00	-	-
Middleboro, Rochester & Wareham	Eastern Contracting Co.	0 18	-	1 00	0 40	12 00	0 065	-
Middleboro	Powers Bros.	0 15	-	0 15	0 50	9 00	0 095	-
Milford	Edw. F. Jones	0 10	-	1 00	0 50	14 00	0 07	6 00
Needham & Wellesley	John F. Rooney & Co.	0 25	0 25	0 25	1 00	13 50	0 07	-
Newton	Sherry Con. Co., Inc.	0 05	-	1 00	0 40	-	0 06	6 00
Newton & Wellesley	Coleman Bros.	0 22	0 22	1 20	0 50	13 00	0 06	4 85
Northboro & Shrewsbury	Mario Pandolf Co., Inc.	0 25	-	1 50	0 65	15 00	0 07	6 00
*Oakham & Rutland	Greenough Cons. Co.	0 17	0 07	1 50	0 60	15 00	0 07	-
Pelham	Warner & Goodwin	0 20	-	2 00	1 00	12 00	0 085	-
Pittsfield	Lane Const. Co., Inc.	0 30	0 10	0 30	1 25	12 00	0 075	5 50
Pittsfield	C. B. Lindholm.	0 20	0 20	1 00	0 80	15 00	0 085	-
Plainville	Arute Bros., Inc.	0 20	0 25	3 00	0 50	12 00	-	-
Reading	P. J. Holland	0 05	-	5 00	-	-	-	5 30
Rehoboth	Sherry Con. Co., Inc.	0 25	0 25	2 50	0 70	16 00	0 065	-
Revere (culv.)	J. A. Cavanagh.	-	-	1 00	0 90	-	-	-
Revere (cut-off)	Coleman Bros.	0 22	0 15	2 50	0 50	10 00	0 06	5 00
Rochester	M. F. Roach & Sons	0 22	0 22	0 22	0 50	15 00	0 10	-
Salisbury	J. E. Watkins Co.	0 20	0 20	-	0 50	-	0 065	-
Savoy	Rome Con. Co., Inc.	0 60	0 25	0 60	1 00	12 00	-	-
Sherborn	M. F. Roach & Sons	0 20	0 22	1 50	0 60	13 00	0 06	-
Stockbridge	J. De Michiel & Sons.	0 25	-	1 00	0 45	13 00	0 09	-

*Federal Aid Emergency Construction Project.

†Price includes extra requirements for which see special provisions.

CONTRACT PRICES DEC. 1, 1931, TO NOV. 30, 1932

Broken Stone (Cu. Yd.)	Cable Guard Rail (Lin. Ft.)	PIPE CULVERTS (lineal feet)								Stock Fence (Lin. Ft.)	Stone Filling (Cu. Yd.)	Catch Basins (Each)	Reinf. Conc. Ma- sonry (Cu. Yd.)	Gravel Borrow (Cu. Yd.)
		CLAY			REINF. CONCRETE									
		10 in.	12 in.	15 in.	12 in.	15 in.	18 in.	24 in.						
-	-	-	-	-	-	-	-	-	-	-	-	\$14 85	\$0 50	
\$1 25	\$0 42	\$0 30	\$0 35	\$0 55	\$0 63	\$0 85	\$1 25	\$2 00	\$0 12	-	30 00	15 00	0 22	
1 60	0 45	0 35	0 40	-	0 70	1 00	1 50	2 30	0 30	-	35 00	25 00	0 42	
1 40	-	-	-	-	-	-	-	-	-	-	-	-	0 40	
-	0 40	-	-	-	-	-	-	-	-	-	-	-	0 50	
2 25	0 45	-	0 50	-	0 85	-	-	-	0 15	1 40	40 00	12 00	0 30	
-	-	-	-	-	-	-	-	-	-	-	-	15 00	0 40	
3 50	0 38	-	0 50	-	0 70	-	1 25	-	0 11	-	30 00	-	-	
1 70	0 40	0 35	0 40	0 70	-	-	-	-	0 15	-	40 00	13 00	0 20	
1 40	0 38	-	-	-	0 70	-	1 25	-	0 10	-	35 00	12 00	0 20	
1 10	0 45	0 28	0 35	-	0 65	-	-	-	-	-	32 00	-	0 30	
1 60	0 40	0 33	0 40	0 65	0 65	0 90	1 20	-	0 13	-	35 00	14 00	0 20	
1 90	0 40	-	0 37	-	-	-	-	-	-	-	-	20 00	0 22	
2 00	0 35	-	-	-	-	-	-	-	0 20	-	30 00	10 00	0 20	
2 50	0 42	-	0 45	-	0 75	-	-	-	0 15	-	40 00	14 00	0 27	
1 30	0 45	-	0 35	-	0 45	0 90	1 30	2 00	0 18	-	35 00	12 00	0 25	
-	0 45	-	-	-	-	-	-	-	-	-	-	15 00	0 30	
1 50	0 45	-	-	-	-	-	-	-	0 15	-	30 00	16 00	0 30	
1 40	0 40	0 30	0 35	0 60	0 60	0 90	1 20	2 00	0 13	-	30 00	10 00	-	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1 75	0 45	-	-	-	0 50	-	-	-	-	1 00	-	14 00	0 25	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
-	-	-	-	-	-	-	-	-	-	-	-	14 00	0 50	
2 40	0 40	-	-	-	-	-	-	-	0 13	-	-	14 00	-	
-	-	-	-	-	-	-	-	-	-	-	-	13 00	0 40	
2 25	0 40	-	0 35	-	0 75	-	1 35	2 00	0 15	-	45 00	13 00	0 35	
2 00	0 45	0 35	0 45	-	-	-	-	-	-	-	40 00	25 00	0 25	
-	0 45	-	0 40	0 75	0 65	0 90	1 35	2 50	0 15	-	40 00	15 00	0 30	
-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1 00	0 37	0 30	0 35	0 55	0 70	-	-	2 00	0 14	-	30 00	10 00	0 30	
-	-	-	-	-	-	-	-	-	-	-	-	12 50	0 40	
1 30	0 40	-	0 40	-	1 00	-	1 50	3 00	-	-	30 00	12 00	0 20	
-	-	-	0 70	-	-	-	-	-	-	-	40 00	-	0 50	
3 00	0 40	-	-	-	-	-	-	-	0 15	-	40 00	15 00	0 40	
3 00	0 41	-	0 40	-	-	-	-	-	0 15	1 25	35 00	11 50	0 25	
1 70	0 40	-	0 35	-	0 80	-	-	-	0 15	-	40 00	15 00	0 25	
1 65	0 30	-	-	-	-	-	-	-	-	-	30 00	10 00	0 15	
-	-	-	-	-	-	-	-	-	0 15	1 00	-	18 00	0 20	
2 30	0 40	-	0 40	-	0 70	-	-	-	0 15	-	33 00	16 00	0 30	
-	0 45	-	-	-	-	-	-	-	0 16	-	30 00	9 00	0 20	
2 00	-	-	0 40	0 60	-	-	-	-	-	-	34 00	-	0 30	
1 55	0 50	0 35	0 40	0 70	0 65	1 25	1 40	2 40	0 18	-	40 00	13 50	0 25	
1 35	-	-	0 60	0 60	0 60	-	-	2 00	-	-	40 00	-	0 20	
1 20	-	0 30	0 38	0 62	0 65	-	1 30	-	0 20	-	35 00	10 00	0 22	
2 25	0 50	-	0 45	0 70	0 80	-	1 45	2 75	0 18	-	40 00	17 00	0 38	
1 35	0 37	-	0 40	-	0 70	-	0 90	-	0 13	-	30 00	16 80	0 30	
1 60	-	-	-	-	-	-	-	-	0 15	-	40 00	15 00	0 30	
2 40	0 40	-	0 40	0 70	0 85	-	1 50	-	0 15	-	40 00	14 00	0 45	
1 90	0 40	-	0 50	-	-	-	-	2 00	-	-	40 00	20 00	0 35	
-	0 45	-	0 30	-	-	-	-	-	0 15	1 00	40 00	-	0 25	
-	-	-	-	-	-	-	-	-	-	-	-	-	0 30	
2 10	0 45	0 30	-	-	-	-	-	-	0 16	-	40 00	20 00	0 35	
-	-	-	-	-	4 00	-	4 00	-	-	-	-	8 00	1 00	
0 80	-	0 30	0 35	0 60	0 60	0 80	1 18	2 00	0 10	-	25 00	12 00	0 20	
-	0 45	0 35	0 45	-	-	-	-	-	0 16	-	35 00	15 00	0 22	
1 65	-	0 35	-	-	-	-	-	-	-	-	35 00	-	0 35	
2 00	0 40	-	-	-	-	-	-	-	-	1 40	-	12 50	0 35	
1 75	0 38	-	-	-	-	-	-	-	0 12	-	33 00	14 00	0 30	
1 82	0 39	-	-	-	-	-	-	-	0 14	-	40 00	14 00	0 38	

CONTRACT PRICES DEC. 1, 1931 TO NOV. 30, 1932 — *Continued*

TOWN OR CITY	CONTRACTOR	EXCAVATION				Plain Conc. Masonry (Cu. Yd.)	Asphalt (Gals.)	Concrete Surf. (Cu. Yd.)
		Earth (Cu. Yd.)	Borrow (Cu. Yd.)	Ledge (Cu. Yd.)	Trench (Cu. Yd.)			
Stoneham . .	M. McDonough Co.	0 10	-	1 50	0 50	40 00	0 065	-
Swansea . .	E. F. Jones	0 20	0 25	1 50	0 50	15 00	0 065	-
Tewksbury . .	R. A. Richard & Co.	0 20	0 20	1 00	-	-	0 085	-
Waltham . .	Greenough Con. Co.	0 20	-	1 50	1 00	15 00	0 07	-
*Wellesley (W.) . .	C. Bianchi Co., Inc.	0 18	0 18	1 00	0 60	15 00	0 07	5 50
*Wellesley (C.) . .	Simpson Bros.	0 15	-	1 40	0 70	15 00	0 06½	5 00
*Wellesley (E.) . .	State Con. Co.	0 12	0 17	1 00	0 50	13 00	0 06½	5 30
W. Newbury . .	P. J. Holland	0 15	0 01	1 50	0 45	10 00	0 07	-
W. Newbury . .	M. McDonough Co.	0 12	-	2 00	0 40	9 00	0 065	-
Westfield . .	Boston Bridge Wks.	-	-	1 90	-	-	-	-
Westminster . .	Perini & Ampollini	0 15	0 15	1 50	0 50	10 00	-	-
Westfield & W. Springfield . .	Fred T. Ley & Co.	0 20	0 20	2 00	0 75	15 00	0 08	-
Whitman . .	Eastern Contr. Co.	0 22	-	1 50	0 60	12 00	0 065	-
Worcester & W. Boylston . .	Charles E. Horne	0 18	-	1 50	0 80	14 00	0 075	-
Worthington . .	Lane Con. Corp.	0 20	-	3 00	0 75	15 00	0 07	-

CONTRACT PRICES DEC. 1, 1931 TO NOV. 30, 1932 — *Continued*

Broken Stone (Cu. Yd.)	Cable Guard Rail (Lin. Ft.)	PIPE CULVERTS (lineal feet)							Stock Fence (Lin. Ft.)	Stone Filling (Cu. Yd.)	Catch Basins (Each)	Reinf. Conc. Ma- sonry (Cu. Yd.)	Gravel Borrow (Cu. Yd.)
		CLAY			REINF. CONCRETE								
		10 in.	12 in.	15 in.	12 in.	15 in.	18 in.	24 in.					
1 40	-	0 40	0 45	0 65	0 90	1 20	-	-	-	-	35 00	-	0 20
1 60	0 52	0 36	-	-	-	-	-	-	-	-	35 00	-	0 25
1 75	0 45	-	-	-	-	-	-	-	0 20	-	-	14 50	0 25
1 30	0 45	0 40	0 45	-	0 80	1 00	1 50	-	0 16	-	35 00	30 00	0 40
1 40	-	0 30	0 35	0 55	-	-	-	-	-	-	30 00	10 00	0 23
1 25	-	0 30	0 35	0 55	-	-	-	-	-	-	30 00	10 00	0 25
1 35	-	0 30	0 35	0 55	-	-	-	-	-	-	31 00	11 40	0 23
1 25	0 35	0 30	0 35	0 55	0 50	-	-	-	0 30	-	30 00	20 00	0 25
1 25	0 45	0 28	0 33	0 53	0 65	1 00	-	-	0 20	-	25 00	40 00	0 20
-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	15 00	0 20
1 55	0 45	0 35	0 40	0 65	0 75	1 00	-	-	0 15	-	40 00	12 70	0 40
1 70	0 40	-	0 40	0 50	0 70	-	1 50	-	-	-	33 00	-	0 25
1 70	0 35	-	0 40	-	0 80	1 25	-	2 50	0 15	-	40 00	20 00	0 25
2 10	0 45	0 35	0 40	-	0 75	-	1 50	2 25	0 15	-	40 00	18 00	0 30

REGISTRY OF MOTOR VEHICLES

The statistics for the year 1932 show decreases in the various classes of applications handled, running from approximately 3% in commercial vehicles to 9% in passenger vehicles, and nearly 30% in the examinations of new operators; but the net decrease in applications of all kinds is approximately only 5%. This slight net reduction enables the Registry to operate with a smaller staff of temporary clerks during the vacation and emergency periods. However, that does not materially affect the amount of work done, because the insurance cancellations have increased nearly 30%, and the public continues to make extensive use of the files of the Registry.

There was a noticeable decrease also in the number of court abstracts received, which affected the revenue received from fines,—the decrease doubtless being due to the reduction in registered motor vehicles and in the number of licensed operators on the highways.

The regular activities of the Registrar of Motor Vehicles in matters of highway safety were continued as in former years. Special attention was given to this safety work during the Saturday and Sunday week-ends and holiday periods. There was the usual cordial cooperation rendered by the various safety committees, the police and other officials charged with safeguarding the public.

Dr. Charles S. Slocombe, who had been appointed as Expert Assistant to the Registrar, completed on May 31, 1932, his study of the problem of reducing loss and damage, injury and death resulting from the use and operation of motor vehicles. The Registry plans to continue to keep certain records regarding accidents which tend to reveal the so-called "repeaters". This special class of offenders will be given either cautionary advice or disciplinary treatment, according to their records.

A few of the outstanding figures for the year, together with a comparison of the previous year, follow:—

	1931	1932
Motor Vehicle certificates of registration issued	1,009,876	923,570
Licenses to operate issued	1,024,304	1,014,635
Examinations of applicants for licenses	112,763	81,036
Licenses and registrations revoked and suspended	58,306	73,511
Licenses revoked for driving under influence of liquor	5,535	4,824
Total number of applications handled	2,115,193	2,018,238
Gross receipts from fees	\$6,430,015.98	\$6,142,129.98

REGISTRATIONS OF PASSENGER CARS, COMMERCIAL VEHICLES AND MOTOR CYCLES

The following registration figures show a 9.08% decrease in passenger registrations, a 3.45% decrease in commercial registrations, and motor cycle registrations dropping again to an abnormal decrease of approximately 45% over the previous year.

	1905	1915	1925	1929	1931	1932
Passenger cars	4,889	90,580	663,858	905,636	890,228	809,358
Commercial vehicles	—	12,053	100,480	113,268	116,580	112,551
Motor cycles	553	9,520	10,333	6,168	3,068	1,661
Totals	5,442	112,153	774,671	1,025,072	1,009,876	923,570

EXAMINATIONS FOR LICENSES

The system of examining prospective operators of motor vehicles was not changed in any respect during the year 1932, the appointment system being continued and the examination consisting of the usual demonstra-

tion on the highways, a reading test, an eye test, and a test of the applicant as to his knowledge of the motor vehicle law. The number of persons examined decreased noticeably at the fifty-five examining points in the State where examinations were given with the following results:—

	1931	1932
Operators passed	87,950	68,328
Operators unfit	15,519	8,735
Restriction removal, passed	8,306	3,873
Restriction removal, unfit	934	444
"Competency" passed	699	560
"Competency" unfit	58	29
Total examinations	113,466	81,969

BRANCH OFFICES

The branch offices of the Registry of Motor Vehicles are able to render practically the same service to the public that is rendered at the main office at Boston, except as to information from the records. Each branch office serves as a headquarters for the district in which it is located, both as to distribution of number plates and licenses, and law enforcement.

The following table gives approximate figures showing the distribution of applications received at the branch offices and at the central office at Commonwealth Pier, Boston:—

APPROXIMATE DISTRIBUTION OF REGISTRATIONS, LICENSES, ETC.

	Regis- trations	First Licenses	License Renewals	Miscel- laneous	Total
Boston:					
Counter	208,000	—	149,000	68,000	425,000
Mail	160,000	—	444,000	12,000	616,000
Examination	—	27,000	—	4,000	31,000
Pittsfield	23,000	2,000	17,000	5,000	47,000
Springfield	58,000	5,500	51,000	14,000	128,500
Greenfield	12,000	1,000	9,000	3,000	25,000
Northampton	10,000	1,000	7,000	3,000	21,000
Worcester	52,000	5,000	46,000	13,000	116,000
Fitchburg	17,000	1,000	13,000	4,000	35,000
Framingham	20,000	2,000	10,000	4,500	36,500
Lawrence	31,000	3,500	28,000	7,500	70,000
Lowell	25,000	3,000	21,000	5,500	54,500
Fall River	21,000	3,500	20,000	5,000	49,500
New Bedford	21,000	2,000	24,000	5,500	52,500
Lynn	58,000	6,500	45,000	14,000	123,500
Quincy	31,000	6,000	30,000	8,500	75,500
Brockton	40,000	3,000	30,000	11,000	84,000
Hyannis	10,000	1,500	6,000	2,000	19,500
Nantucket ¹	500	—	—	—	500
Oak Bluffs ¹	2,000	—	—	—	2,000
Totals	799,500 ³	73,500	950,000	189,500 ²	2,012,500

A new branch office was opened at Northampton on December 7, 1931, this office being classified as a sub-office in the Springfield District.

COMPULSORY MOTOR VEHICLE LIABILITY INSURANCE

The following figures give an approximate idea of the volume of papers received and notices mailed in connection with the carrying out of the law regarding compulsory motor vehicle liability insurance.

¹ Licenses and miscellaneous applications included in counter figures.

² This figure includes approximately 120,000 number plate reissues.

³ Does not include reissues (see Miscellaneous).

*Notices of Cancellation of Insurance Policies Received and Intents to
Revoke Mailed*

	1931	1932
(a) For non-payment of premiums	85,298	112,994
(b) For other reasons	20,918	17,334
Total	106,216	130,328
Revocations	35,105	46,166
Sets of number plates returned	93,279	106,793

It is interesting to note that the receipt of 93,000 notices of cancellation from insurance companies required the mailing of the same number of notices of intent to revoke; that 37,328 notices of cancellation were received from finance companies; that 15,000 of these cases were adjusted by the filing of certificates by a new company; that 63,000 cancellations were adjusted by the filing of reinstatement notices from the same company; 6,000 by the surrender of registration plates prior to the effective date of cancellation; and 46,166 by the revocation of the plates and certificates. In connection with the surrender of the number plates it was necessary to send notices of the return of 106,793 plates to the various insurance companies covering the registrations involved.

Particular attention should be directed to the fact that of the 46,166 revocations only about 19,666 persons returned their plates and certificates promptly upon receiving notice from this office. The return of approximately 20,000 more sets of plates and certificates was secured through the efforts of the police departments; approximately 2,500 sets of plates and certificates were secured through the efforts of the examiners and inspectors of the Registry, leaving approximately 4,000 sets of plates not returned, although the registrations involved had been revoked and the insurance cancelled. Special attention is directed to this approximate number of 4,000 sets of plates not returned because this number represents a reduction of over 50% as last year 10,000 sets were not located and in previous years a greater number. This substantial improvement in the situation with regard to securing the return of credentials which have been revoked was due largely to a change in the system of following up revocation notices after cancellation of insurance and also to the efforts of inspectors and examiners of the Registry who personally secured plates not voluntarily returned or which the police were unable to locate. Practically all of these revocations were due to non-payment of premium cancellation notices.

AIRCRAFT

The statistics of the Aviation Section show an increase of approximately one hundred licensed pilots and a slight increase in the number of airplanes, notwithstanding which increase there were fewer suspensions and revocations of licenses and rights, and court prosecutions than in the previous year which is doubtless due to the knowledge that the aviation law is being strictly enforced.

It is to be noted, however, that there has been a decided increase in the number of personal injury and fatal accidents which exceeds in percentage the increase in pilots. The reason for this is not definitely known but it is hoped that two new regulations with the effect of law, which are proposed for promulgation in the fiscal year 1933, will have a tendency to reduce such accidents another year.

The blueprints of all the airports in the State have been rechecked by the Engineering Department and brought up to date. Additional surveys have been made and contour lines placed on all maps.

The investigation work shows a slight increase and it is interesting to note that the State has been divided into three aviation districts with an inspector covering each district, in order to permit the section to

continue its strict supervision of this new industry and enforcement of the law for the protection of all concerned, including the public at large, whether or not they use aircraft and including the flying personnel.

The following statistics summarize the work of this comparatively new but growing industry.

	1931	1932
Pilots' licenses issued	31	17
Airplanes registered	49	37
Pilots' license fees received, including examination fees	\$248	\$140
Airplane registration fees received	\$687	\$411
Duplicates issued	6	4
Certified copies issued	1	0
Duplicate fees received	\$ 6	\$ 4
Fees received for certified copies	\$ 1	0
Pilots examined for licenses and amendments	22	11
Aircraft examined for registrations, permits and repairs	436	470
Pilots' permits issued	358	476
Aircraft permits issued	298	323
Suspensions and revocations of licenses, registrations and rights to fly	37	34
Court prosecutions for violations of aircraft laws	6	5
Surveys of fields for airports	10	5
Recheck surveys of fields for airports	24	10
Flying fields approved	0	1
Flying fields disapproved	0	2
Investigations made by aircraft inspectors	763	821
Rulings made by Registrar	0	1
Airplane accidents:—		
Crack-ups	69	57
Non-fatals	12	21
Fatals	3	8
Persons injured	31	38
Persons killed	4	11
Planes damaged	67	67
Planes washed out	18	19
Caused by motor failure	20	17
Structural failure	8	6
Improper operation and other reasons	56	63
Ground accidents:—		
Crack-ups	15	10
Non-fatals	3	3
Fatals	1	0
Persons injured	3	3
Persons killed	1	0
Planes damaged	21	13

INSPECTION OF MOTOR VEHICLE EQUIPMENT

The third periodic inspection of the safety equipment of all motor vehicles registered in the commonwealth was held during the year 1932. The work was carried on by a permanent organization of Official Inspection Stations designated by the Registrar. Most of these stations have now been functioning for a period of three years and performed the work honestly and efficiently.

The results of the inspections confirmed the conclusions reached by former experience: that one inspection per year cannot be expected to secure the desired results. When business and other conditions warrant, it is to be hoped that two inspections per year can be conducted.

During the year approximately 783,000 cars were inspected. The result may be summarized as follows:

Total number of cars inspected	783,000
Total O. K. without repair or adjustment	407,000—52%
Total requiring replacement or adjustment	375,800—48%
Repairs or adjustments on the 375,800 vehicles requiring correction of defects in equipment were as follows:	
Brakes and lights	109,600—14%
Lights only	203,500—26%
Brakes only	39,150— 5%
Miscellaneous (horn, etc.)	23,490— 3%

School Bus Inspections

The first school bus inspection required by chapter 271 of the Acts of 1932, was held during the week of October 31, 1932. Eight hundred and three motor vehicles used for the transportation of school children were examined and tested by inspectors of this department at 39 designated examining points. Because of the provisions of the law, complete compliance with its equipment requirements cannot be insisted upon until the termination of all transportation contracts existing on August 26, 1932. In every case, however, brakes, lights, windshield wiper, etc., were required to be in proper condition and the vehicle generally in a safe condition.

Brakes, Lights and Overloads

Sixteen men were regularly assigned to equipment work. Besides their duties in connection with the periodic inspections of motor vehicles and school buses, these men did considerable road work in enforcing equipment requirements. 2,497 vehicles were reported for defective brakes; 15,182 for defective lights. 473 registrations were revoked because of dangerously defective equipment. In addition 391 owners were sent warning notices because of overloading and 44 registrations were revoked for this cause. Equipment inspectors also reported 2,761 cases of improper operation for action by the Registrar and 1,270 cases of violation of laws and regulations regarding equipment, dimensions of vehicles, etc.

Headlamps and Rear Lamps

The Registrar approved two new headlamps during 1932 and nine new tail lamps. Extension of approval was granted to cover one new type of headlamp of a make already approved. The new approvals granted mark a departure from customary headlamp design in that the left and right headlamp are not similar and the beam pattern is not symmetrical.

Cars equipped with the new lamps have the usual high and low beam controlled by a light switch, and in addition, a third beam, called the "passing beam," which is a combination of the two, in which the left beam is tilted down, the right remaining in the high position, illuminating the right hand edge of the road. The lenses, also, are different in each headlamp, being designed to bend the beam slightly to the right, the purpose being to eliminate to some extent the possibility of glaring rays being emitted by this lamp in such a direction as to cause discomfort to approaching drivers.

MOTOR VEHICLE DEATHS, INJURIES, COLLISIONS

Deaths caused by motor vehicles in 1932 numbered 768, a decrease of twenty-five or 3.1 per cent as compared with the record of the previous year. The record of classified fatalities, injuries and collisions in the years 1931 and 1932 is as follows:—

Motor Vehicle Accidents to Persons

	Persons Killed		Persons Injured	
	1931	1932	1931	1932
Pedestrians by autos	434	426	15,499	15,793
Pedestrians by motor cycles	3	2	27	26
Pedestrians near street cars	9	11	59	24
Occupants of autos	281	277	31,142	30,186
Occupants of autos at railroad crossings	22	16	38	24
Occupants of motor cycles	14	9	458	240
Bicycle Riders	20	12	822	848
Occupants horse-drawn vehicles	2	5	279	279
Coasters on sleds	7	8	434	148
Coasters on wheels	1	2	79	90
Totals	793	768	48,837	47,658

	Children Killed		Children Injured	
	1931	1932	1931	1932
Boys	138	112	7,886	7,441
Girls	61	34	4,159	4,136
Totals	199	146	12,045	11,577

Number of Collisions

	1931	1932
Collision with pedestrian	15,169	15,672
Collision with automobile	19,629	20,168
Collision with horse-drawn vehicle	287	300
Collision with railroad train	31	23
Collision with street car	360	297
Collision with fixed object	1,846	1,887
Collision with bicycle	809	873
Non-Collision (overturn)	746	714
Collision with motor cycle	502	303
Collision with sled	383	120
Collision with animal	85	101
Coaster on wheels	—	82
Totals	39,847	40,640
In the daytime	25,018	25,394
After dark	14,829	15,246
Totals	39,847	40,640

ACCIDENT REPORT LETTERS

As provided by section 26, chapter 90, General Laws every operator of a motor vehicle in any manner involved in an accident in which any person is killed or injured is required to report in writing to the Registrar. The number of these formal accident reports received in 1932 was 48,864 as compared with 44,994 received in 1931. Under the requirements of section 29, chapter 90, General Laws, 19,859 similar reports of accidents were received from Police Departments throughout the State in 1932 as against 19,824 received in 1931. In addition, in connection with this reporting of accidents by operators, during the fiscal year 1931 there were received 15,882 letters and complaints reporting faulty operating. During the year 1932, these letters and complaints numbered 14,769.

COMPARATIVE STATEMENT OF YEARLY REGISTRATIONS, LICENSES, DEATHS, INJURIES, REVOCATIONS AND SUSPENSIONS

Year	Automobiles Registered	Motor-Cycles Registered	Total Registrations	Number of Persons Killed	Number of Persons Injured	Licenses Issued	Total Suspensions and Revocations	For Operating Under Influence of Liquor
1910	31,360	3,358	34,718	77	963	41,259	283	22
1911	38,907	3,658	42,565	110	1,248	51,950	360	14
1912	50,132	5,034	55,166	142	1,962	66,645	546	56
1913	62,660	7,127	69,787	188	2,923	81,034	608	87
1914	77,246	8,161	85,407	229	4,010	99,532	858	131
1915	102,633	9,520	112,153	294	6,197	133,935	1,153	202
1916	136,809	10,713	147,522	315	9,131	171,596	1,396	320
1917	174,274	11,065	185,339	438	7,282	214,229	1,831	485
1918	193,497	12,862	206,359	499	8,598	235,140	2,343	553
1919	247,183	13,698	260,881	582	16,287	297,968	2,156	554
1920	304,538	15,142	319,680	481	21,182	261,539	2,944	888
1921	360,731	12,058	372,790	544	11,487	380,519	4,899	1,508
1922	449,838	11,675	461,513	522	15,277	444,173	8,369	2,460
1923	566,150	11,733	577,883	578	16,217	536,819	11,613	3,333
1924	672,315	10,778	683,093	709	19,579	620,439	14,154	4,395
1925	764,338	10,333	774,671	755	25,736	698,378	16,249	4,654
1926	826,224	9,215	835,439	705	25,351	763,951	18,705	4,863
1927	819,703	7,245	826,948	693	31,721	814,094	31,252	4,983
1928	883,595	6,556	890,251	715	42,201	870,160	40,814	5,071
1929	1,018,904	6,168	1,025,072	777	46,111	944,338	53,133	5,381
1930	1,008,476	4,642	1,013,118	795	44,279	982,795	52,954	5,052
1931	1,006,808	3,068	1,009,876	793	48,837	1,024,304	63,841	5,535
1932	921,909	1,661	923,570	768	47,658	1,014,635	73,511	4,824

INVESTIGATIONS AND PROSECUTIONS BY INSPECTORS

Investigations were made under the direction of the Chief Inspector relative to fatal and non-fatal accidents, head light violations, inspection of garages, miscellaneous complaints and the prosecution of motorists in court. In the following tabulation it should be noted that the work of the inspectors includes a substantial increase in the number of accidents investigated.

It should be noted that the slight decrease in accidents, together with the lessening of work incident to the decreased registration and examination of new operators, has enabled our inspectors to increase substantially the number of formal investigations and reports made during the year, which situation is particularly desirable because as it becomes possible to investigate more and more all accidents, discipline of operators can be more properly administered and authorities be placed in a better position to remedy the situation by reason of the greater number of accidents so investigated.

Classification of Reports

	1931	1932
Accidents, fatal	746	748
Accidents, non-fatal	5,853	5,816
General reputation	4,437	5,943
Miscellaneous	7,879	11,764
Totals	18,915	24,271
Complaints filed	21,206	14,976
Garages inspected	5,911	5,471
Headlights and other violations reported	50,269	21,036
Prosecutions conducted	831	752
Amount of fines	\$35,815	\$26,175

REVOCATIONS AND SUSPENSIONS

	1931	1932
Licenses suspended	17,018	15,315
Licenses revoked	3,880	3,466
Rights suspended	5,236	4,651
Certificates suspended	8	0
Certificates revoked	35,577	48,417
Certificates and licenses suspended	21	22
Certificates and licenses revoked	1,882	1,435
Certificates revoked and rights suspended	173	123
Rights in Massachusetts suspended	46	82
Totals	63,841	73,511
Resulting from investigations	19,466	17,411
Resulting from Court convictions	9,277	8,196
Resulting from Police complaints	1,627	1,411
Resulting from Judges' complaints	35	21
Resulting from State Police complaints	229	210
Resulting from Insurance cancellations	33,207	46,262
Totals	63,841	73,511

Character of Offences

	1931	1932
Reckless and endangering	2,084	1,845
Liquor convictions	4,613	3,899
Going away after accidents	384	335
Without authority	822	831
Racing	0	0
Improper person	5,967	5,562
Improper person, liquor	922	925
Two overspeeds	172	34
Three overspeeds	12	4
Improper operation	13,548	9,436
Insurance cancellations	33,207	46,262
Insurance convictions	351	375
Improper equipment, miscellaneous	307	138
Improper equipment, lights	191	166
Improper equipment, brakes	400	415
Failure to have stickers	0	2,157
Fatal accidents	780	728
Other offenses	81	399
Totals	63,841	73,511
Formal hearings	7,325	7,188
Court recommendations adopted:—	1931	1932
Liquor	0	0
Reckless and endangering	53	33
Going away after accidents	17	6
Without authority	1	2
Allowing improper person to operate	0	1
Totals	71	42
Persons whose licenses were suspended or revoked and who had to pass examination in order to have them returned	4,113	3,805

ANALYSIS OF COURT ABSTRACTS RECEIVED

	1931	1932
Number of courts forwarding abstracts	95	95
Total abstracts received	57,937	51,329
Number of abstracts recording convictions	38,869	36,149

Offences

(Analysis of convictions, not including appeals)

Overspeeding	12,890	11,366
Reckless	26	14
Operating under the influence of liquor	3,934	3,486
Using auto without authority	1,068	1,194
Endangering lives	2,220	2,253
Not stopping after causing injury	662	591
Without license	2,895	2,985
Without registration certificate	902	802
Unregistered vehicle	262	395
Improper display or no register number	132	178
Refusing to stop on signal	245	298
Unlighted lamps	820	500
Operating within 8 feet of street car	249	112
Violation of Metropolitan Park Rules	710	442
Operating after suspension or revocation of license	456	558
Larceny	139	115
Manslaughter	—	1
Miscellaneous	2,328	2,007
Racing	—	1
Operating after registration certificate revoked	8	22
No rear light	32	36
Not displaying lights	50	—
Passing red light	—	130
Improper lights	534	356
Brakes not as required by law	252	237
Violation of Insurance Law	316	416
Not slowing down approaching pedestrian	41	60
Not slowing down at intersecting way	5,942	5,191
Violation of law of road	1,723	2,312
Perjury—making false statements on license application, falsely impersonating or conspiring to obtain a license	21	17
Allowing intoxicated person to operate	3	5
Loaning a license to another	2	8
Attempted larceny	7	61
Totals	38,869	36,149

USED CAR SECTION

(Motor Vehicle Identification)

The following is a resume of the work accomplished by the Used Car Section which indexes, under the engine number, all motor vehicles registered and reported stolen, and checks reports of sales of used cars against the stolen vehicle records. Dealer's and repairmen's plates and registration certificates are issued by this office.

The work of this section is summarized in the following tables:—

<i>Dealers</i>	1931	1932
Total number of first class dealers reporting	1,255	1,240
Total number of second and third class dealers reporting	501	468
Total number making reports to this office	1,756	1,708

Reports

Approximate number of notices of intended sales received daily	230	243
Approximate number of dealers' reports received daily	1,085	823

Motor Vehicles Stolen

Number stolen in Boston	5,336	4,901
Number stolen in Massachusetts (including Boston)	10,720	6,211
Number reported stolen from various sources throughout the country, including Massachusetts	27,486	23,902
Number of motor vehicles recovered through information furnished by this office	355	423

Engine and Serial Numbers

Engine numbers assigned to cars	29	12
Certificates issued authorizing the replacement of engine numbers	701	456
Certificates issued authorizing the replacement of serial numbers	1,135	648
Certificates issued authorizing the replacement of both engine and serial numbers	18	19
Total number of authorized certificates issued	1,854	1,123

EASTERN CONFERENCE OF MOTOR VEHICLE ADMINISTRATORS

Representatives of the department attended meetings of the Conference held in Washington, D. C., on May 5 and 6, 1932. Various problems of highway safety were discussed. Plans were completed for a meeting of a committee of Conference members with representatives of motor car manufacturers for the purpose of securing reasonably safe motor vehicles on our highways and to consider the entire question of the motor vehicle industry's responsibility in reducing accident hazards. (This meeting was held in Detroit on September 26, 1932.)

Registrar Morgan T. Ryan was appointed chairman of a committee to co-operate with the National Bureau of Casualty Underwriters in a National Safety Campaign.

Because of economic reasons, Massachusetts was not represented at the Conference meetings held in Washington on October 6, 1932. This was unfortunate because a successful vote was thereby made possible on a headlamp approval which would have been opposed by Massachusetts representatives.

ANALYSIS OF RECEIPTS

The fees received for the year 1932, together with the number of certificates of registration issued in each classification and the number of licenses granted, etc., are shown in the following table:—

Certificates of Registration:

Passenger cars (including taxicabs)	805,459	\$2,490,759 00
Commercial cars	112,551	1,238,269 83
Buses	3,899	84,329 60
Trailers	525	33,464 50
Motor cycles	1,661	2,219 50
Manufacturers or Dealers (including repairers)	3,454	10,350 00
Manufacturers or Dealers additional cars (including repairers)	19,914	59,683 50

Licenses to operate:

Original licenses	70,966	at	\$2.00	—	141,932 00
Renewal licenses	943,669	at	2.00	—	1,887,338 00
Examinations	63,793	at	2.00	127,586	
Re-examinations	17,243	at	1.00	17,243	

Total examinations	81,036				144,829 00
Copies of certificates and licenses furnished	37,004	at	\$1.00		37,004 00
Duplicate number plates furnished	7,146	at	1.00		7,146 00
Lens approval applications	3	at	50.00		150 00
Miscellaneous receipts, process fees, etc.					4,655 05

Total amount of fees					\$6,142,129 98
Motor vehicle fees rebated (deducted)					73,062 22
Net fees					\$6,069,067 76
Court fines received by the Treasurer and Receiver-General					425,416 03

Total receipts credited Highway Fund account, 1932 . . . \$6,494,483 79

EXPENSES OF THE REGISTRY OF MOTOR VEHICLES

The cost of running the Registry of Motor Vehicles for the year 1932 was \$1,508,235.97, which was 24.8 per cent of the net fees collected. This cost, deducted from the receipts for the year, left the sum of \$4,986,247.82 available for legislature appropriation for highway work.

ANALYSIS OF EXPENDITURES FOR THE FISCAL YEAR 1932

Payrolls

Personal services:

Regular payroll	\$941,872 01
Overtime payroll	9,186 66
Scrubwomen's payroll	1,265 20
	<hr/>
	\$952,323 87

Expenses

Supplies:

Books, maps, etc.	\$1,299 31
Typewriter supplies	1,578 45
Adding machine repairs and supplies	113 36
Other supplies	3,241 15
Stationery	22,561 86
Typewriter repairs	116 13
Other repairs	515 63
	<hr/>
	\$29,425 89

Equipment and Furniture

Typewriter machines	\$4,631 12
Other machines	2,141 63
Desks	380 47
Bookcases, tables, etc.	318 21
Filing cabinets	1,860 27
Chairs	404 22
Dictograph	657 01
Branches—Counter	410 00
Electric fans	37 04
Safe	289 10
Headlight and brake testing expense	194 72
Uniforms	5,607 79
	<hr/>
	\$16,931 58

Traveling expenses:

Officials	\$2,258 45
Employees	39,173 88
Aviation	3,285 66
Automobiles (owned by employes)	74,055 33
Automobiles (owned by State):	
Maintenance of 10 automobiles	3,784 71
Exchange of 2 automobiles	1,464 00

\$124,022 03**Other services and expenses:**

Expressage	\$2,901 99
Postage	91,460 26
Printing:	
Other reports	1,962 05
Other printing	6,560 70
Telephone	7,860 34
Premium on bonds of employees	404 46
Rent	46,000 00
Cleaning and janitor services	1,361 00
Rat extermination	320 75
Labor	1,190 00
Number plates	175,578 65
Direct mail lists	8,700 00
Sundries	231 57
Towels and Soap	1,162 65
Water and ice	1,099 20

Branch offices:

Rent, telephone, lighting, heating	28,749 22
Labor and services	5,781 41
Supplies and express	3,571 55

\$384,895 80*Publicity for Safety Work*

Labels	\$587 59
Posters	25 00
Printing	24 21

\$636 80

Total \$1,508,235 97*Summary*

Payrolls	\$952,323 87
Expenses	555,275 30
Publicity for Safety Work	636 80

\$1,508,234 97

Special investigation of accident reduction \$10,104 71

**RELATING TO WATERWAYS AND PUBLIC LANDS
BOSTON HARBOR****THE COMMONWEALTH FLATS AT SOUTH BOSTON***Commonwealth Pier 5*

The usual work required for maintenance of the pier has been carried on during the year. Repairs have been made to gangways, to the sprinkler system, to roofing and flashing, to elevators and elevator machinery, to steam lines, to fender logs and floating fenders, and to the heating plant.

Under a contract made Dec. 1, 1931, with Buckley and Scott Utilities, Inc., oil burning equipment was installed at the heating plant. This work was completed May 5, 1932, at a contract cost of \$13,764.01.

On Dec. 15, 1931, a contract was made with the New England Structural Company for the construction of a movable gangway and operating track on the wharf platform at the outer end of Pier 5. The contract prices for this work were: for track furnished and set in place in wharf platform, including grouting and all incidental work, \$1.68 for each linear foot of track measured in place in the completed work; for furnishing and erecting complete in place the entire superstructure of the gangway, including all incidental work, the lump sum of \$3105. This work was completed Mar. 8, 1932, at a contract cost of \$4093.80.

A contract was made on Apr. 12, 1932, with James C. Grant for alterations to the settings of two horizontal return tubular boilers at the heating plant, at the following contract prices: for changes in the setting of the boilers, including new work and connections, \$2,500; for relining fronts of boilers, \$100. This work was completed May 5, 1932, at a contract cost of \$2502.50.

On June 7, 1932, a contract was made with A. A. Hersey & Son Co. for repairs to the timber work of the platform at Pier 5. The repairs consist of furnishing, driving, fitting and securing new fender piles and new foundation piles, rebolting piles, furnishing and securing new bracing, securing existing loose bracing and any other necessary timber work in the pile platform. This work was completed Nov. 29, 1932 at a cost of \$7,249.00.

A contract was made on July 26, 1932, with the National Guniting Contracting Company, for furnishing labor, materials and equipment for reconstructing concrete beams and slabs at Commonwealth Pier 5 and for protecting portions of the steel structure of the Viaduct. This work was completed Sept. 12, 1932 at a contract cost of \$7,145.01.

On Aug. 9, 1932, a contract was made with the Caigan Engineering Equipment Company for rebuilding the settings of boilers No. 1 and No. 2 at the heating plant, constructing a pit in front of these boilers, at a contract price of \$3,654. This work was completed Nov. 17, 1932 at a contract cost of \$3,654.00.

The summary of shipping at the pier during 1932 shows a 32 per cent increase in outward tonnage over the previous year, but a 17% decrease on inward tonnage. The year 1931, however, despite the business depression, gave the largest tonnage the pier has handled. Passenger service has also increased during the year. Further details of the freight and passengers using the pier in 1932 are given in the following table:

NUMBER OF TONS OF FREIGHT AND PASSENGERS HANDLED AT COMMONWEALTH
PIER 5 DURING FISCAL YEAR ENDING NOVEMBER 30, 1932

Name of SS. Line	No. of Ships	In Fgt. Del. RR.	(Tons) Trucks	Total	Out Fgt. Del. RR.	(Tons) Trucks	Total	Passengers		Total
								In	Out	
Am. Haw. SS. Co. .	96	42,520	96,322	138,842	7,442	27,472	34,914	—	—	—
Luckenbach SS Co. Inc.	73	5,369	48,625	53,994	3,807	12,725	16,532	—	—	—
Norton, Lilly & Co. .	57	815	10,928	11,743	563	3,464	4,027	—	—	—
White Star Line .	41	541	2,210	2,751	698	979	1,677	2,917	3,917	6,834
Canadian Nat. SS. Co..	112	—	—	—	—	28	28	5,280	5,859	11,139
Cosulich Line .	11	11	—	11	23	39	62	—	3,547	3,547
Hamburg-Amer. Line .	5	—	—	—	—	—	—	168	502	670
North German Lloyd .	1	—	—	—	—	—	—	—	62	62
Norton Lilly & Co. (Foreign) .	1	236	248	484	—	—	—	15	—	15
Fabre Line .	1	—	—	—	—	—	—	—	289	289
Byron SS. Co. .	6	—	—	—	—	—	—	—	785	785
Furness, Withy & Co. .	1	—	—	—	—	—	—	—	100	100
TOTAL. .	405	49,492	158,333	207,825	12,533	44,707	57,240	8,380	15,061	23,441

DEVELOPMENT OF LAND SOUTH OF SUMMER STREET

During the year the seven sections in Storehouse No. 1 on E Street have been occupied by the Wiggin Terminals, Inc. In the Storehouse on D Street the Economy Grocery Stores Corporation continued through the spring the occupancy of section H under lease of May 24, 1929, and of section J under a permit from the Department.

Early in the year the Economy Grocery Stores Corporation asked to be allowed to buy from the Commonwealth the D Street Warehouse and began with the Department negotiations which went on for several months. Under agreements of May 10, 1932, and of June 7, 1932, approved by the Governor and Council on June 14, 1932, this building and land become the property of the Corporation upon the completion of the payment of \$300,000 to be made in ten annual payments, including interest each year upon the unpaid balance. The agreement provides that the Commonwealth may retain until Feb. 1, 1933, the use of section M of this warehouse and the use of section N until Apr. 1, 1933.

The sale of the D Street warehouse made necessary certain changes in the electric service to the storehouse on E Street.

On Oct. 4, 1932, a contract was made with the W. D. Smith Electric Company to install new equipment necessary to provide electric service from the mains in E Street at a contract price of \$625 for furnishing all labor, materials and equipment and installing such service complete. This work was completed Oct. 31, 1932, at a contract cost of \$625.

For better protection of the fire sprinkler system at the E Street Warehouse a motor driven compressor was furnished, installed and connected with piping to the sprinkler system. This work was done by the Grinnell Company at a contract cost of \$229.

GRASSELLI WHARF

Until early summer this property continued to be occupied by the Atlantic Radio and Marine Company, Inc., under a lease dated Oct. 1, 1930. In June the lessee was obliged to make an assignment to creditors and was unable to comply with the terms of its indenture. The property is now available for lease.

THE COMMONWEALTH FLATS AT EAST BOSTON

Aircraft Landing Field — Boston Airport

The greater part of the area reclaimed by the Commonwealth at East Boston is now occupied by the City of Boston as an airport. On Aug. 10, 1928, under authority of Chapter 64 of the Resolves of that year, the Department leased to the City approximately 5,717,000 square feet of land for this purpose. The use of an additional area of 4,210,760 square feet was authorized by a lease executed July 14, 1930, in accordance with the provisions of Chapter 53 of the Resolves of 1930. Negotiations are now in progress for the lease to the City of two additional parcels, one northeasterly of the areas included under leases of 1928 and 1930, and the other southeasterly of that leased in 1930.

The use of these areas by the City is, however, subject to certain rights of occupancy and use granted by previous agreements to the Federal Government. The lease to the War Department under date of June 30, 1922, contains an option for annual renewal to June 30, 1932. A supplementary agreement under date of Dec. 27, 1926, extended this option to June 30, 1937. To the Navy Department the lease of June 16, 1924, gives the option of continuing by annual renewals the use of a certain area to June 30, 1932.

RECLAMATION OF FLATS

The work of dredging and filling at East Boston under contracts made by the Department for the purpose of reclaiming flats has been in abey-

ance since 1923. Between that year and Nov. 30, 1932, approximately 2,567,000 cubic yards of material dredged from various locations in the harbor have been deposited in the receiving basin. In the year ending Nov. 30, 1932, approximately 31,500 cubic yards were dumped upon flats northerly of Governor's Island. The Commonwealth has reclaimed about 150 acres of land at East Boston.

Under licenses granted in 1930 and 1931, for the building of bulkheads, dredging and filling, the City has reclaimed for the extension of the Airport, an area of approximately 140 acres.

COMMONWEALTH PIER 1, EAST BOSTON

The work of renewing fender piles, splicing foundation piles, replacing girder caps, wales, fender capping and deck planking in the platforms of the pier, under contract of Oct. 27, 1931, with Michael Solimando was completed Jan. 15, 1932, at a contract cost of \$2,714.92.

During the year the east and west docks of this pier have been used by the Eastern S. S. Lines, Inc., for tying up steamers not in service.

EAST BOSTON — ABANDONED HULKS

Under authority of Chapter 465 of the Acts of 1931, Extra-Session, the Department has carried on during the year the removal of hulks of dismantled vessels grounded and abandoned years ago along the East Boston waterfront. The appropriation of \$65,000 made by said act has been expended under the following contracts:

On Dec. 2, 1931, a contract was made with the Blakeslee Rollins Corporation for removing from tidewater the hulk of the steamer "Coyote" lying on flats on the northerly side of Apple Island at East Boston and for placing the wreck above high water back of the bulkhead on the South side of the Reserved Channel at South Boston, for the lump sum of \$6,700.

After floating this wreck the contractor found the hulk of very heavy construction of large timber planking strongly bolted and with an unusual amount of metal. The difficulty of breaking up this material after its removal from tide water appeared so great that after disposing of some of the lighter timbers at South Boston the contractor asked to be allowed to sink the remainder of the hulk at sea and offered a concession of \$1,000 upon the contract price if such disposal was authorized. The "Coyote" was accordingly sunk at sea on Jan. 11, 1932, in accordance with the direction of the U. S. Engineers. The contract cost of the removal and disposal of the wreck of the "Coyote" was \$5,700.

A contract was made on Dec. 29, 1931, with the New England Maintenance Co., Inc., for the removal from tide water of several hulks adjacent to the corner of Border and Condor Sts., East Boston, on properties of the Boston Port Development Company and the depositing of the material removed on the fill over the bulkhead at the Reserved Channel, South Boston, for the lump sum of \$11,000. A part of the material removed was placed upon the upland at East Boston. In February additional work under the terms of this contract was authorized to include the removal of hulks and wrecks lying in part on property of the George E. McQuesten Co., at a price of \$400, and of hulks uncovered at Meridian and Condor Streets during the work, at a price of \$2,600. All the work was completed July 15, 1932, at a contract cost of \$14,000.

On Jan. 12, 1932, a contract was made with A. A. Hersey and Son Company to remove several hulks from tide water at property of Frederick H. Viaux at Condor Street, East Boston. The contract price for the removal and disposal of these hulks was the lump sum of \$8,570. This work was completed May 21, 1932, at a contract cost of \$8,570.

A contract was made Feb. 9, 1932, with the Merritt-Chapman & Scott Corporation for the removal of hulks or wrecks from Chelsea Creek on property of Jessie D. Wright at Condor Street, East Boston, for the lump sum of \$8,800. This work was completed Apr. 23, 1932, at a contract cost of \$8,800.

On Mar. 15, 1932, a contract was made with the New England Maintenance Company, Inc., for the removal of hulks or wrecks from property of the Boston Port Development Company at Jeffries Point, at the following contract prices: for removal and disposal of wrecks on premises at Marginal Street adjacent to property of the International Glue Company, the lump sum of \$3,000; for removal and disposal of wrecks on premises at Marginal Street adjacent to McDonald's Wharf, the lump sum of \$900. This work was completed June 28, 1932, at a contract cost of \$3,900.

In order to give by this work as much relief to unemployment as possible, in accordance with the intention of said Chapter 465, additional labor was hired by the Department to break up the timbers and salvage the metal from the hulks removed from tide water and placed upon the upland by the contractors.

In addition to the work done by the Commonwealth, certain owners of flats at East Boston removed at their own expense hulks lying at their property. Such work was done by the George McQuesten Company, the Boston and Lockport Block Company, the Bay State Dredging and Contracting Company, W. H. Ellis and Son Company, the Boston Elevated Railway and Bertelsen and Petersen.

Under the provisions of Section 3 of said Chapter 465, the expense incurred in the removal of wrecks was to be a lien upon the premises from which they were taken. This section was later repealed by Chapter 115 of the Acts of 1932, approved Mar. 28, 1932.

BOSTON INNER HARBOR — DREDGING

On June 14, 1932, a contract was made with the Bay State Dredging and Contracting Company for dredging two areas in Boston Harbor, as follows: An area approximately 900 feet long and 400 feet wide in the vicinity of Boston & Albany Railroad Pier 2 at East Boston, to a depth of 35 feet at mean low water; an area approximately 1500 feet long and 400 feet wide in the vicinity of Pier 1 of the New York, New Haven and Hartford Railroad at South Boston, to a depth of 25 feet at mean low water. The contract price for this work was: for dredging and disposing of dredged material 37 cents per cubic yard, scow measurement; for removing and disposing of boulders \$20 per cubic yard. This work was completed Oct. 29, 1932, at a contract cost of \$33,850.56.

TENEAN CREEK DREDGING

Hearing was held Jan. 27, 1932 upon a petition of the Dorchester Board of Trade, and others, for dredging the channel in Tenean Creek to a depth of 12 feet at mean low water from the main ship channel in Neponset River to the berth at property of E. L. & W. H. Cutter.

A contract was made on June 14, 1932, with the Bay State Dredging and Contracting Company for dredging a channel approximately 800 feet long and 60 feet wide to a depth of 12 feet at mean low water, in Tenean Creek, Dorchester, at the following contract prices: for dredging and disposing of the dredged material 48 cents per cubic yard, scow measurement; for removing and disposing of boulders \$20 per cubic yard. This work was completed Aug. 3, 1932, at a contract cost of \$5,388.48.

HULL SEA WALLS

The work of placing concrete footing under and in front of about 245 linear feet of existing sea wall, the building of about 55 linear feet of new sea wall, at Stony Beach, and the placing of concrete footing under and in front of 175 feet of wall at Pemberton Point, under contract of Nov. 10, 1931, with Bradford Weston, was completed Jan. 18, 1932, at a contract cost of \$2,929.94.

WINTHROP HARBOR, WINTHROP

The work of removing boulders from the basin of the Winthrop Yacht

Club under contract of Nov. 10, 1931, with the Trimount Dredging Company was completed Mar. 30, 1932, at a contract cost of \$946.00.

SURVEYS

During the year resurveys have been made of wharf and shore lines along portions of the Mystic River in Everett and Medford, and of Island End River in Everett and Chelsea. Hydrographic surveys have been made in Weymouth Fore River, Quincy and Weymouth, from Quincy Point Bridge upstream about three-quarters of a mile, and in Town River and Quincy Bay at the Squantum and Wollaston Yacht Clubs.

RIVERS, HARBORS, TIDE WATERS AND FORESHORES OUTSIDE OF BOSTON HARBOR

For the improvement of rivers, harbors, tide waters and foreshores outside of Boston Harbor, in accordance with the provisions of section 11, chapter 91, General Laws, an appropriation of \$75,000 was made during 1932 with the following condition:—

“provided, that all expenditures made for the protection of shores shall be upon condition that at least fifty per cent of the cost is covered by contributions from municipalities or other organizations and individuals and that in the case of dredging channels for harbor improvements at least twenty-five per cent of the cost shall be so covered.”

An appropriation of \$22,500 was also available during the year for the maintenance of structures, and for repairing damages along the coast line or river banks of the Commonwealth, and for the removal of wrecks and other obstructions from the tide waters and great ponds.

Petitions were filed with the Department during the year for surveys and improvements in the following localities: Allens Harbor, Harwich; Briggs Harbor, Scituate; Falmouth Shore Protection, Falmouth; Harwich Shore Protection, Harwich; Herring River, Harwich; Hyannis Harbor, Barnstable; Marshfield Sea Walls, Marshfield; Plymouth Harbor, Plymouth; Warren's Cove, Plymouth; West Chop Shore, Tisbury; Witchmere Harbor, Harwich.

Public hearings have been held, certain estimates of cost made, but no work has been done to carry out the improvements petitioned for in Allens Harbor, Harwich; Briggs Harbor, Scituate; Herring River, Harwich; Plymouth Harbor, Plymouth; Warren's Cove, Plymouth; and Witchmere Harbor, Harwich.

Information relating to work previously done in various rivers and harbors of the Commonwealth may be found in the annual reports of the Board of Harbor and Land Commissioners, the Commission on Waterways and Public Lands, the Division of Waterways and Public Lands of the Department of Public Works and in the tables of the Appendix accompanying the present report. These reports show localities, character of work, appropriations and expenditures by the Commonwealth, and certain appropriations and expenditures by the Federal Government.

An account of work done during the year 1932 for the improvement of rivers, harbors, tide waters and foreshores outside of Boston Harbor, follows:

ALLENS HARBOR, HARWICH

The work of extending the existing timber fence, placing riprap and back filling and additional riprap for further protection of an existing fence, under contract of Nov. 24, 1931, with George W. Starbuck, was completed Jan. 19, 1932, at a contract cost of \$1,792.05.

During the storms of March the sea lifted a section about 125 feet long of the fence built in 1928, throwing it out of alignment and threatening to break through the intervening beach and open a cut to the east of the jetty. Under a letter contract with George W. Starbuck the fence was rebuilt and riprap replaced at a cost of \$1,343.23.

The timber jetties built in 1926 at the entrance to this harbor, were constructed of untreated timber. Soon afterward the marine borer (teredo navalis) appeared in these waters and began to perforate the structures. As a result the jetties are now badly damaged and should be replaced with heavy stone riprap or steel sheet piling. The cost of such replacement is estimated at \$12,000 or \$15,000 depending upon the type of construction. At present material is moving through the jetties into the channel at a rate that will soon cause shoaling to an amount that will prevent even boats of shallow draft from entering the harbor.

Amount expended during the year, \$3,910.84. Total expenditure to Dec. 1, 1932, \$38,707.80.

CAPE COD CANAL LANDING PIER

The War Department of the United States, in accordance with the request of the Department, under the provisions of Ch. 441 of the Acts of 1931, granted a permit on Dec. 15, 1931, for the construction at Bourne Neck of the landing pier in the Cape Cod Canal.

In April the County Commissioners of Barnstable County made the necessary taking of land for the roadway leading to the site of the pier. The Department on Apr. 26, 1932, made a taking of the pier site and the area between mean high and low water required for the construction of the pier and for the dredging of berths and turning basin.

A contract was made on Apr. 26, 1932, with the Merritt-Chapman & Scott Corporation for the construction of a landing pier in the town of Bourne, including the dredging of a berth, approach channels, a turning basin and the construction of mooring dolphins and appurtenances, at unit prices for the construction work and at the following prices for dredging: for dredging berth, approach channel and turning basin and disposing of dredged material in solid fill portion of pier, 22 cents for each cubic yard measured in place; for dredging berth, approach channels, turning basin and cable trench and disposing of dredged material away from the site of the work, 20½ cents for each cubic yard measured in place; for removing and disposing of boulders \$15 for each cubic yard.

The type of pier designed for the Cape Cod Canal and approved by the U. S. War Department consists of a steel and concrete solid fill pier 600 ft. long and 75 ft. wide located at the westerly end of the Canal at Buzzards Bay and parallel to the centre line of the Canal. In addition, provision has been made for a turning basin with dolphins for turning and tying up vessels in Buzzards Bay adjacent to the westerly end of the main pier. This turning basin will accommodate a vessel 500 feet long.

Amount expended during the year, \$170,893.32. Total expenditure to Dec. 1, 1932, \$170,893.32.

FALMOUTH SHORE PROTECTION

Hearing was held on Jan. 27, 1932, on the petition of the Selectmen of Falmouth for protection of the shore of Vineyard Sound along the road from Falmouth Height to Menauhant.

On May 24, 1932, a contract was made with Sidney W. Lawrence for constructing about 350 linear feet of timber bulkheads, nine timber jetties and the placing of about 630 tons of stone riprap and chips on the Menauhant Shore in Falmouth. The contract prices were: for each creosoted yellow pine pile furnished and driven in the completed work, \$4.50; for each untreated yellow pine pile furnished and driven in the completed work, \$2.00; for each thousand feet board measure, of creosoted yellow pine lumber furnished, driven and set in place, \$86; for each ton of riprap and chips furnished and set in place in the completed work \$2.50. This work was completed Aug. 24, 1932, at a contract cost of \$5,324.17. Toward this cost a contribution of \$3,100 was made by the Town of Falmouth.

On account of the low contract prices for this work the Department was able to increase the length of shore protected to 464 feet. The work, since its completion, has been subjected to several severe storms and is, apparently, proving effective against erosion.

Amount expended during the year, \$6,075.33. Total expenditure to Dec. 1, 1932, \$76,743.04.

GREEN HARBOR, MARSHFIELD

A survey in the spring of the outer portion of the entrance channel revealed a small shoal forming between the outer ends of the two stone jetties at the entrance to the river, narrowing the channel and obstructing the passage of boats.

A contract was made on May 31, 1932, with the Bay State Dredging and Contracting Company for dredging a channel 75 feet wide on the bottom and 6 feet deep at mean low water through a shoal at the entrance to Green Harbor, at the following contract prices: for dredging and disposing of the dredged material, \$1.12 per cubic yard, scow measurement; for removing and disposing of boulders \$15 per cubic yard. This work was completed June 17, 1932, at a contract cost of \$3,696.00.

The present jetties at the outlet to Green Harbor are, evidently, not long enough to prevent the movement of sand around the ends of the structures and into the channel. To maintain in the harbor entrance a channel depth of 6 feet or more at mean low water will require the extension of both jetties to deeper water. It is probable that additional dredging in the channel entrance will be needed in 1933 on account of the rapid movement of material around the outer ends of these jetties.

Amount expended during the year, \$6,956.21. Total expenditure to Dec. 1, 1932, \$165,469.37.

GREEN HILL, HULL

In September a petition was received from residents of Hull asking for repairs and additions to the sea wall at the foot of Green Hill. An inspection showed a section of wall slightly undermined for a distance of about 75 feet and eight of the spur jetties broken.

On Oct. 25, 1932, a contract was made with Thomas Whalen & Sons, Inc., for constructing 8 concrete spur jetties and placing a concrete footing in front of a portion of the sea wall between Gun Rock and Green Hill. The contract price for this work is \$8.15 for each cubic yard of concrete in place in the completed work, including all excavation, backfilling and incidental work. This construction is now in progress.

Amount expended during the year, \$618.79. Total expenditure to Dec. 1, 1932, \$78,877.92.

HARWICH SHORE PROTECTION

In accordance with plans and recommendations made last year for the protection of this shore a contract was made on Dec. 15, 1931, with Joseph W. Nickerson for the construction of four stone jetties at West Harwich Beach at a contract price for furnishing and placing heavy stone riprap and granite chips in the jetty, of \$2.59 for each ton of 2000 pounds. This work was completed Feb. 19, 1932, at a contract cost of \$4,266.82. Toward this cost a contribution of \$2,500 was made by the Town of Harwich.

On Nov. 9, 1932, a contract was made with Sidney W. Lawrence to build a stone spur jetty 130 feet long about two hundred feet easterly of Gray's Neck Road on the beach at West Harwich, at a contract price of \$3.12 for each ton of stone riprap furnished in place in the completed work.

Hearing was held Jan. 27, 1932, upon petition of the Selectmen of Harwich for building stone jetties along the shore at South Harwich.

In the spring it became necessary to strengthen the fence east of the easterly jetty at Herring River by the placing of stone riprap, and to deposit riprap at the northerly end of a stone jetty in West Harwich. The three projects were combined in plans and specifications and on May 3, 1932, a contract was made with Arthur K. Finney for the construction of five stone jetties at South Harwich, the placing of about one hundred tons of riprap in front of the timber bulkhead at the entrance to Herring

River, and the placing of about thirty tons of riprap at the northerly end of a stone jetty at West Harwich, at a contract price of \$3.33 for each ton of 2,000 pounds furnished and placed. This work was completed June 23, 1932, at a contract cost of \$3,556.97. Toward the cost of this improvement a contribution of \$2500 was made by the town of Harwich.

Under a letter contract of June 6, 1932, with Arthur K. Finney a stone jetty was built at property of Robert Bitzer near the Chatham-Harwich line. The work was completed July 5, 1932, at a contract cost of \$1,206.75. Toward the cost of this jetty a contribution of \$350 was made by Mr. Bitzer.

The work carried on for several years for the protection of the Harwich Shore is proving effective, but erosion continues to cause serious damage along a considerable part of the shore of Nantucket Sound where no such projects have been undertaken.

Amount expended during the year, \$10,583.36. Total expenditure to Dec. 1, 1932, \$162,781.62.

HYANNIS HARBOR, BARNSTABLE

Hearing was held Jan. 27, 1932, on petitions of the Selectmen of Barnstable for dredging in Lewis Bay.

At the time of hearing the town of Barnstable wished to provide a public landing place in Lewis Bay and was willing to spend \$13,000 in building a timber bulkhead, and to make a contribution toward the cost of dredging two areas in Lewis Bay, if excavated material could be placed back of the bulkhead to complete the construction of the landing. The town voted in March to appropriate \$21,750 for the bulkhead and dredging and in April the Selectmen asked the Department to undertake the entire improvement.

On June 28, 1932, a contract was made with Thomas Whalen & Sons, Inc., for furnishing all labor, equipment and materials for the construction of about 900 linear feet of creosoted timber bulkhead in Hyannis Harbor at a contract price of \$11.90 for each linear foot of bulkhead constructed in place. This work is now in progress.

A contract was made on Aug. 9, 1932, with the Saybrook Dredging Company for dredging three areas in Hyannis Harbor, two areas to a depth of 6 feet at mean low water and one area to a depth of 9 feet at mean low water, at the following contract prices: for dredging and disposing of excavated material on the marsh, flats and behind the bulkhead by the hydraulic process, or other means, including the construction of necessary dikes, sluices and spillways and incidental work, 18.89 cents for each cubic yard measured in place; for removing and disposing of boulders \$10 per cubic yard. This work is now in progress.

In connection with the building of the timber bulkhead certain drainage work not covered by the original contract became necessary.

On Oct. 4, 1932, a contract was made with Thomas Whalen and Sons, Inc., for furnishing and laying about 10 linear feet of 8-inch pipe, 200 linear feet of 10-inch pipe, 162 linear feet of 12-inch pipe and 110 feet of 15-inch pipe and the construction of four catch basins at the Town Landing east of Ocean Street at Hyannis. This work was completed Nov. 26, 1932, at a contract cost of \$821.50.

Amount expended during the year, \$11,247.56. Total expenditure to Dec. 1, 1932, \$78,052.29 in Lewis Bay and Hyannis Harbor.

LAGOON POND, OAK BLUFFS AND TISBURY

Hearing was held on Jan. 28, 1931, on a petition of the Selectmen of Oak Bluffs and of Tisbury for dredging a channel through a bar in Vineyard Haven Harbor at the outlet of Lagoon Pond.

An investigation made of conditions at the outlet of the pond convinced the Department that any channel dredged could be maintained only by the construction of a jetty on the easterly side to check the drift of material into the area excavated.

Before undertaking a project of this character the Board required the

towns to secure the necessary releases from the owners of property involved and to make contributions amounting to one-half the cost of the work.

The releases were filed in August, 1932, and two checks for \$6,750 each, were received from the towns of Oak Bluffs and Tisbury during the month.

On Aug. 23, 1932, a contract was made with Merritt-Chapman & Scott Corporation to dredge at the entrance to Lagoon Pond a channel 100 feet wide on the bottom and 6 feet deep at mean low water, and to construct a stone jetty about 450 feet long on the easterly side of said channel. The contract prices for this work are: for dredging and disposing of the dredged material on marsh and flats by the hydraulic process, including the construction of necessary dikes and sluices, thirty-five cents for each cubic yard measured in place; for removing and disposing of all boulders, \$25. for each cubic yard; for each ton of riprap or stone chips furnished and placed in the completed work, \$3.23. This work is now in progress.

Amount expended during the year, \$16,166.29. Total expenditure to Dec. 1, 1932, \$16,476.04.

LONG BEACH, ROCKPORT

While the building of the sea wall completed in 1931, was going on, it became evident that adequate protection would require the placing of filling back of the structure to an elevation a little below the top of the wall. The town of Rockport made a contribution of \$1,000 toward the cost of the work. Under a letter contract with George W. Nicoll Co., Inc., filling back of the sea wall was placed to an elevation two feet below the top of the structure at a contract cost of \$2,000.

Amount expended during year, \$9,390.57. Total expenditure to Dec. 1, 1932, \$52,516.31.

MARSHFIELD SHORE PROTECTION

Under the provisions of Chapter 407 of the Acts of 1931, the protection of the Marshfield shore has been continued during the year. The work of placing heavy stone riprap and stone chips to protect the bank, timber bulkhead and concrete sea wall at Brant Rock, east of Ocean Avenue and south of Shepard Street, under contract of Sept. 15, 1931, with Raymond A. Bergesson was completed Jan. 29, 1932, at a contract cost of \$29,-096.75.

The sea wall built on the beach at Fieldston under contract of Sept. 15, 1931, with Louis B. Cardario and Sons was completed Dec. 23, 1931, at a contract cost of \$83,706.24.

After the building of the sea wall at Fieldston, filling was placed back of the structure under contract made Mar. 29, 1932, with Thomas Whalen and Sons, Inc., for furnishing all labor, equipment and materials for filling back of the concrete sea wall at Fieldston at a contract price of 27 cents for each cubic yard of material measured in place in the completed work. The filling back of the wall was completed June 14, 1932, at a contract cost of \$3,512.70.

The Selectmen asked in the spring for the construction of steps to give access to the beach over the sea wall at Fieldston, at approximately every third street terminating at the wall. On Mar. 29, 1932, a contract was made with Thomas Whalen & Sons, Inc., for the construction of rubble concrete steps with wrought iron railings over the concrete sea wall on the beach at Fieldston, at the following contract prices: for all rubble concrete measured in place in the completed work, including the furnishing of all material, labor and incidental work, \$6.22 for each cubic yard; for each set of wrought iron railing in place, including all material, labor and incidental work, \$95.00 for each set. This work was completed June 16, 1932, at a contract cost of \$4,764.56.

A contract was made Dec. 1, 1931, with Philip B. Oakman to build a concrete sea wall faced with riprap about 1100 feet long, with return walls

about 20 feet long, and to place riprap protection for a length of about 850 feet on the beach south of Brant Rock, at the following contract prices: for furnishing materials and constructing the concrete sea wall including excavation, backfill and all incidental work, \$7.65 for each cubic yard of concrete measured in place in the completed work; for furnishing and placing heavy stone riprap and chips against the sea wall and bank, including excavation and all incidental work, \$1.70 for each ton of 2000 pounds in place in the completed work. This work was completed May 14, 1932, at a contract cost of \$24,286.99.

While work upon this wall was in progress, a petition was received from the Selectmen asking that the structure be extended southerly from the U. S. Coast Guard Station for a distance of about 700 feet. The Department agreed to undertake the work, but, at the request of summer residents postponed action until the fall.

On Sept. 27, 1932, a contract was made with A. Piatelli and Company for constructing about 700 linear feet of concrete sea wall, with an opening for the taking of boats from the beach, at a location south of the U. S. Coast Guard Station at Brant Rock, at a contract price of \$6.65 per cubic yard of concrete, measured in place in the completed work, for furnishing material and constructing the concrete sea wall, including excavation, backfill and all incidental work. This work is now in progress.

Under the provisions of said Chapter 407 protection has been provided for the Marshfield shore from a point about one half mile northerly of Fieldston to a point at Brant Rock. For a half-mile beyond Brant Rock the shore is protected by a masonry wall constructed some years ago. Southerly from this wall for a distance of 1500 feet a new concrete sea wall has been built. Northerly of the entrance to Green Harbor riprap is being placed to prevent further erosion. When the work now in progress is completed, the shore of Marshfield would seem to be protected adequately for some years to come.

Amount expended during the year, \$84,547.84. Total expenditure to Dec. 1, 1932, \$214,973.29.

MENAMSHA INLET, CHILMARK AND GAY HEAD

The placing of 2,900 tons of stone riprap and chips and about 340 cubic yards of sand filling in three locations at Menamsha Inlet, under contract of Nov. 3, 1931, with the Merritt-Chapman and Scott Corporation was completed Feb. 26, 1932, at a contract cost of \$12,777.82.

Amount expended during the year, \$13,146.27. Total expenditure to Dec. 1, 1932, \$130,243.43.

NEW BEDFORD STATE PIER

The larger portion of this pier has been, since September, 1927, under lease to the Lamport Manufacturing Supply Company, Inc.

The lease provides for the use by the Company of a specified portion of the pier for a period of ten years beginning Sept. 1, 1927, at a rental of \$6,000 per year for the first five years, and of \$10,000 per year for the five years following. The Company agrees by the terms of the lease to provide reasonable facilities for vessels desiring to use the present unenclosed area of the pier for water-borne commerce, as well as reasonable accommodation for loading and unloading cargo. The charges made for such uses of the pier are to be those established by the Department, effective since July 15, 1925.

The pile platform built in 1931 on the northerly side of the pier has been operated during the year by the Department. Several steamship companies have used this part of the pier for docking vessels and for discharging cargoes, chiefly of cotton. Most of the cargo handled has been incoming freight, but one shipment of tire fabric consigned to Pacific Coast ports has been made from the pier.

On Mar. 8, 1932, a contract was made with Frank C. Taylor for furnish-

ing and placing floating fender logs and for securing them to the north side of the wooden wharf of the State Pier at New Bedford. The contract prices for this work were: for furnishing and placing each floating fender log 40 feet to 60 feet long, including all bolts and fastenings, \$4.50 per linear foot of fender measured in place in the completed work; for furnishing and placing each wrought iron chain 4 feet long, the lump sum of \$25. This work was completed Mar. 24, 1932, at a contract cost of \$1,276.94.

A contract was made on May 10, 1932, with the Gunitite Construction Company for furnishing labor, tools, equipment and material, and for reconstructing and repairing plaster walls on the shed at the State Pier at the following contract prices: for removing existing plaster wall on the south side of the wooden shed, and replacing said wall with new gunitite wall, the lump sum of \$1,151; for removing existing plaster walls from the south side of the steel shed and at the southeast corner of the pier, and replacing said walls with new gunitite walls, the lump sum of \$324; for placing new gunitite surface one inch thick on the easterly face of the steel shed, the lump sum of \$995. This work was completed Aug. 23, 1932, at a contract cost of \$2,594.98.

By Chapter 273 of the Acts of 1932, the Department was authorized to build a shed on the extension of this pier, or a roof to cover said extension built under Chapter 460 of the Acts of 1931, Item 625. For the purpose an appropriation of \$7,000 was subsequently made.

On July 5, 1932, a contract was made with the McClintic-Marshall Corporation to construct a steel canopy approximately 260 feet long and 30 feet wide over a portion of the timber platform on the north side of the pier, at the lump sum price of \$5,319. This work was completed Sept. 2, 1932, at a contract cost of \$5,484.

A contract was made on Oct. 4, 1932, with W. Edward Howarth for furnishing and installing a lighting system at a contract price of \$619.51 for furnishing all labor, materials, and equipment and installing all electrical work. This work together with the installation of two additional lights and of replacements not included in the original contract, was completed Nov. 7, 1932, at a contract cost of \$679.51.

Minor repairs to the pier have been carried on as usual during the year.

Amount expended for operation, maintenance and improvement during the year, \$24,476.08.

Income during the year, \$14,460.09. Total expenditure for operation, maintenance and improvement to Dec. 1, 1932, \$124,393.49.

OAK BLUFFS SEA WALLS

The storm ending Nov. 10, 1932, resulted in minor damage to structures built by the Commonwealth in two locations along the shore of Oak Bluffs. A section of the sea wall about 65 feet long easterly of the entrance to Lake Anthony was undermined and overturned. The timber bulkhead at the Highlands was so battered for a distance of about 300 feet that the top moved forward causing openings which allowed the escape of a part of the back filling. Six of the supporting jetties of creosoted timber were entirely removed and a seventh badly damaged.

A letter contract was made on Nov. 28, 1932, with Arthur K. Finney for repairs and additions, to the timber bulkhead and jetties by the driving of oak piles and interlocking steel sheet piling.

On Nov. 29, 1932, a contract was made with the Merritt-Chapman & Scott Corporation for the removal of a broken section of the concrete sea wall southerly of the entrance to Lake Anthony, for the construction of a new section about 65 feet long and the furnishing and placing of about 150 tons of heavy riprap in front of the new wall and extending in front of the older portion of the concrete sea wall to the southerly stone jetty. The contract prices for this work are: for furnishing and constructing the section of sea wall, including excavation, back fill and all incidental work, \$13.00 for each cubic yard of concrete measured in place in the

completed work; for each ton of stone riprap furnished in place in the completed work, including all cleaning up and all incidental work, \$3.75. This work is now in progress.

Amount expended during the year, \$21.80. Total expenditure to Dec. 1, 1932, \$141,099.57.

COMMONWEALTH PROPERTY AT PLYMOUTH

An appropriation of \$3,800 was made by the Legislature this year for the maintenance and repair of property at Plymouth acquired by the Pilgrim Tercentenary Commission and placed under the jurisdiction of the Department by vote of the Governor and Council on July 17, 1924.

The work of making repairs to the canopy over Plymouth Rock and of placing copper over the roof was completed by the Beattie Corporation on Feb. 27, 1932, at a contract cost of \$1,179.39.

Complaints were received during the year concerning the condition of parts of the granolithic side walk and curbing where settlement had occurred. Investigation showed that no ballast was placed under the concrete when the walks were built and that the damage was caused by poor drainage. Minor repairs have been made during the year to sections where settlement has been most marked.

Amount expended during the year, \$4,248.44. Total expenditure to Dec. 1, 1932, \$44,649.41.

PROVINCETOWN TERCENTENARY COMMISSION

During the year the land at Provincetown acquired by the Provincetown Tercentenary Commission and placed under the control of the Department June 23, 1926, has been cared for from funds appropriated for the use of the Province Lands. One employee of the Department has been kept at work during the summer to maintain this park in proper condition.

SCITUATE HARBOR, SCITUATE

On Apr. 12, 1932, a contract was made with John J. Johnson for the removal from tide water of a wreck in the anchorage basin on the south side of Scituate Harbor, for the lump sum of \$146. This work was completed May 20, 1932.

Amount expended during the year, \$146. Total expenditure to Dec. 1, 1932, \$206,011.94.

SCITUATE SEA WALLS

Under the provisions of Chapter 424 of the Acts of 1931, protective work along the Scituate shore has been continued during the year.

First Cliff

A contract was made on Oct. 11, 1932, with Joseph F. Cavanagh for placing about 250 tons of stone riprap to protect the face of a portion of First Cliff, at a contract price of \$1.57 for each ton of stone riprap furnished in place. This work was completed Nov. 3, 1932, at a contract cost of \$587.97.

Sand Hills

A letter contract was made on July 5, 1932, with Thomas Whalen and Sons, Inc., for placing 800 tons of stone riprap upon the crest of the beach northerly of the north end of the sea wall.

Later in the summer the Selectmen asked for the construction of two ramps in front of openings left in the sea wall repaired in 1931.

On Sept. 6, 1932, a contract was made with George W. Starbuck for the construction of two rubble concrete ramps in front of two openings in the existing concrete sea wall at the Sand Hills, at a contract price of \$5.87 for each cubic yard of concrete measured in place in the completed work. This construction was finished Oct. 11, 1932, at a contract cost of \$522.37.

Second Cliff

On May 31, 1932, a contract was made with Thomas Whalen & Sons, Inc., for the placing of about 2,000 tons of stone riprap to protect the face of a portion of Second Cliff, at a contract price of \$1.64 for each ton of stone riprap or chips furnished in place in the completed work. This project was completed July 15, 1932, at a contract cost of \$4,445.54.

Third Cliff

The placing of 2000 tons of heavy stone riprap to protect the face of a portion of the bluff at Third Cliff, under contract of Aug. 25, 1931, with John P. Cavanagh, was completed Dec. 28, 1931, at a contract cost of \$5,205.54.

The greater part of the Scituate shore is now well protected from erosion by the sea, but more work will probably be needed in the near future at Second Cliff and northerly of the Sand Hills.

Amount expended for sea walls and other work of shore protection in Scituate during the year, \$17,326.96. Total expenditure to Dec. 1, 1932, \$401,623.43.

TAUNTON RIVER, IMPROVEMENT BY FEDERAL GOVERNMENT

The Federal Government during the year has continued the dredging under the project providing for a channel 12 feet deep in Taunton River from Fall River to Weir Village, Taunton. The removal of ledge was in progress at the end of the fiscal year, and a new contract is to be made soon for completing the channel.

Several surveys have been made and borings taken in connection with the turning basin to be provided at Weir Village under the provisions of Chapter 405 of 1930, in accordance with the requirements of the Federal project. No definite location for this basin has yet been determined.

Amount expended during the year, \$960.22. Total expenditure to Dec. 1, 1932, \$31,561.95.

WAQUOIT BAY, FALMOUTH AND MASHPEE

An inspection made in January of the inshore end of the jetty at the entrance to the bay found the timber work destroyed by fire and the beach washing away rapidly. To protect the breakwater a letter contract was made with John A. Davis for driving piles and placing concrete at the inshore end of the structure. This work was completed Mar. 14, 1932, at a contract cost of \$2,536.38.

During August an examination made of the jetty showed a continuing erosion so serious as to threaten the outlet channel. The immediate need appeared to be the extension of the jetty toward the shore in order to anchor the inshore end to the upland and the building of spur jetties at right angles to the shore in locations easterly of the breakwater.

On Aug. 30, 1932, a contract was made with Thomas Whalen and Sons, Inc., for the construction of about 100 linear feet of creosoted timber bulkhead, two creosoted timber jetties each about 25 feet long, and one creosoted timber jetty about 100 feet long on the easterly side of the entrance to Waquoit Bay, Mashpee. The contract prices for this work were: for each linear foot of creosoted yellow pine bulkhead furnished and driven in place, \$7.75; for each linear foot of creosoted yellow pine jetty, furnished and driven in place, \$7.75: This work was completed Nov. 28, 1932, at a contract cost of \$1,937.50.

The entrance to Waquoit Bay, after the completion of the work done this year, is reasonably safe, although the stone breakwater for a length of about 100 yards has settled to some extent. This is due to the deepening of the channel which has caused undermining of the stone and consequent shifting of material. The breakwater is not yet endangered but will need repairs during the coming year.

Amount expended during the year, \$4,759.38. Total expenditure to Dec. 1, 1932, \$98,073.78.

WEST CHOP, TISBURY

Hearing was held Feb. 24, 1932, upon a petition of the Selectmen of Tisbury for protective work at West Chop.

The best method for checking erosion at this beach appears to be the building of stone jetties projecting at right angles from sea walls already constructed. Toward the cost of these jetties a contribution of \$1,250 was made by the Town of Tisbury and of an equal amount by the property owners.

On Aug. 16, 1932, a contract was made with Joseph W. Nickerson for the construction of four stone jetties, at a contract price of \$4.19 per ton of 2000 pounds for furnishing and placing heavy stone riprap and granite chips in the jetties. This work is now in progress.

Amount expended during the year, \$3,721.75. Tctal expenditure to Dec. 1, 1932, \$3,721.75.

WESTPORT HARBOR, WESTPORT

The work of placing about 400 tons of stone riprap and chips in the stone jetty on the westerly side of the harbor, under contract of Nov. 3, 1931, with George W. Starbuck, was ccompleted Dec. 17, 1931, at a contract cost of \$2,225.21.

While this work has put the jetty into good condition, the erosion of the shore northerly of the structure is washing material into the channel and causing shoaling. The most satisfactory way of checking this movement would be to build another short jetty to divert the current from the shore. This would probably help to remove some of the present shoaling as well as to arrest further deposit of material in the channel.

Amount expended during the year, \$2,431.19. Total expenditure to Dec. 1, 1932, \$21,928.88.

GREAT PONDS

Jurisdiction over great ponds belonging to the Commonwealth was conferred upon the Board of Harbor and Land Commissioners by chapter 318, Acts of 1888. This act applies to ponds containing in their natural state ten or more acres of land. Authority to sell and convey or lease, subject to the approval of the Governor and Council, any of the islands owned by the State in great ponds was later given by chapter 379, Acts of 1904, now section 2, chapter 91, General Laws.

During the year the Department has considered matters relating to: Alum Pond, Sturbridge; Big Sandy Pond, Plymouth; Blackmore's Pond, Wareham; Blueberry Pond, Brewster; Crystal Lake, Newton; Dunham's Pond, Carver; Grass Pond, Harwich; Hallockville Pond, Hawley and Plainfield; Jordan Pond, Shrewsbury; Kendall Pond, Gardner; Lake George, Wales; Lake Mascuppic, Tyngsborough; Lake Nippinicket, Bridgewater; Lake Quinsigamond, Worcester and Shrewsbury; Lake Winthrop, Holliston; Laurel Lake, Lee and Lenox; Lea Mine Pond or Quassac Lake, Sturbridge; Monponsett Ponds, Halifax and Hanson; Musquashiat Pond, Scituate; Pentucket Pond, Georgetown; Round Pond, Plymouth; Silver Lake, Wilmington; Simon's Pond or Lake Marguerite, Sandisfield; South Pond, Barnstable; Spy Pond, Arlington; Tyng's Pond, Dracut; Upper Goose Pond, Lee and Tyringham.

Surveys were made this year of the following great ponds:

Lake Tashmoo, Tisbury

Area of natural pond at time of survey	268.5	acres
Maximum depth	10.7	feet

Pentucket Pond, Georgetown

Area of pond at time of survey	96.25	acres
Area of natural pond	51.98	acres
Maximum depth	34.0	feet

Black Pond, Taunton

Area of Pond at time of survey	12.48 acres
Area of natural pond	10.62 acres
Maximum depth	19.9 feet

Cranberry Pond, West Stockbridge

Area of natural pond at time of survey	10.36 acres
Maximum depth	22.7 feet

Pine Pond, Brewster

Area of natural pond at time of survey	24.48 acres
Maximum depth	22.4 feet

Slough Pond, Brewster

Area of natural pond at time of survey	33.12 acres
Maximum depth	22.9 feet

Walker Pond, Brewster

Area of pond at time of survey	101.76 acres
Maximum depth	9.9 feet

Sam Hall Pond, Brewster

Area of natural pond at time of survey	13.54 acres
Maximum depth	15.6 feet

Faun Pond, Plymouth

Area of natural pond at time of survey	46.63 acres
Depth of Pond	Not determined

Tyings Pond or Muscuppic Lake, Dracut and Tyngsborough

Area of pond at time of survey	222.09 acres
Area of natural pond	206.17 acres

Area of the natural pond is divided between the two towns as follows:

Dracut	10.26 acres
Tyngsborough	195.91 acres
Maximum depth	28.5 feet

Hampton Pond, Southampton and Westfield

Area of pond at time of survey	158.18 acres
Area of natural pond	140.84 acres
Area of Pequot Island in pond	0.61 acres

Area of the natural pond is divided between the two towns as follows:

Southampton	51.92 acres
Westfield	88.92 acres
Maximum depth	31.4 feet

Horse Pond, Westfield

Area of pond at time of survey	29.63 acres
Area of natural pond	23.02 acres
Maximum depth	10.6 feet

Buck Pond, Westfield

Area of natural pond at time of survey	23.48 acres
Maximum depth	22.3 feet

Forrest Lake, Palmer

Area of pond at time of survey	56.37 acres
Area of natural pond	41.33 acres
Maximum depth	31.4 feet

Pattaquattic Pond, Palmer

Area of natural pond at time of survey	20.43 acres
Maximum depth	25.5 feet

Kendall Pond, Gardner

Area of natural pond at time of survey	23.13 acres
Maximum depth	39.3 feet

ACCESS TO GREAT PONDS

During the year two petitions relative to access to great ponds have been received under the provisions of Chapter 453 of the Acts of 1923.

Public hearing before the joint board was held Jan. 20, 1932, upon a petition of ten citizens of the Commonwealth for the establishment of a right of way to Lake George or Wales Pond, in the town of Wales. A special report to the Legislature was made in December, 1932, stating:

"Upon consideration of all the evidence, the Board finds that, as both the State Highway and the Town way are adjacent to the shores of the pond at different locations, public convenience and necessity do not appear to require the establishment of a right of way for public access to Lake George."

On Mar. 3, 1932, the Board made a special report to the Legislature relative to the establishment of a right of way to Simon's Pond or Lake Marguerite in the town of Sandisfield. The report concludes:

"Upon consideration of all the evidence the Board finds that it appears that no right of way for public access to this pond exists and that public convenience and necessity do not require that such right of way be established."

A petition by ten citizens of the Commonwealth for the establishment of a right of way to Jordan Pond in the town of Shrewsbury, was presented to the Department on Nov. 10, 1932. A date for public hearing has been assigned but no further action taken.

PROVINCE LANDS

The territory belonging to the Commonwealth known as the Province Lands at Provincetown comprises about 3,810 acres lying northerly and westerly of a line described in chapter 470, Acts of 1893. By the terms of this act the Board of Harbor and Land Commissioners was given general care and supervision of this area.

Reclamation work under the direction of a superintendent has been carried on since 1894. To check the movement of the sand, the barren dunes are first covered with brush or planted with beach grass. The grass is pulled in bunches about two inches thick and transplanted in rows about 4 feet apart and 6 inches deep. The transplanted grass lives between three and four years. This work is followed and reinforced by the transplanting of trees and shrubs.

During the year work on these lands has been continued in accordance with these methods. Ten acres of sand dunes have been covered with brush; 15,000 native pines on the sod have been transplanted and 400,000 seedlings of Scotch and Austrian pines planted. About one acre of bayberry has been planted.

The sum of \$196.15 has been paid into the State Treasury during the year from licenses issued for cultivating and picking cranberries on the bogs and for mowing meadows and from permits for occupying areas on these lands.

Amount expended during the year, \$4,698.79. Total expenditure to Dec. 1, 1932, \$161,934.58.

STATE BOUNDARY LINES

During the year bound No. 37 on the Massachusetts-Rhode Island line was removed on account of new highway construction and a new bound No. 37 was reset 35.8 ft. east of the location of the old bound.

TOWN BOUNDARY LINES

During the year nine triangulation stations were established to redefine a portion of the Hamilton-Wenham town line.

CONSERVING AND EQUALIZING THE FLOW OF WATER IN RIVERS AND STREAMS

By Chapter 359, Acts of 1909, chapter 564, Acts of 1912, and chapter 84, Resolves of 1917, co-operation was established between the Commonwealth and the Water Resources Branch of the United States Geological Survey, so that results of work relating to the gauging of streams within the Commonwealth and other work of a similar character carried on by the said survey have been obtained for use by the Department and are available for other Departments of the Commonwealth. Toward the cost of this work the Department has paid during the year, \$4,000.

RE-ESTABLISHMENT OF CERTAIN TRIANGULATION STATIONS

By section 33, chapter 91, General Laws, the Department is authorized to make such surveys and to do such other work as may be required by an order of the Land Court, to re-establish and permanently mark certain triangulation points and stations previously established in connection with the topographical survey of the Commonwealth, and the town boundary survey, which have been lost or destroyed and to obtain the geographical position of such new points and stations as may be required from time to time by the Court.

During the year the locations of the following triangulation stations were determined and permanently marked on the ground and the geographical positions furnished to the Land Court:

26 Stations in Nantucket
4 Stations in Yarmouth
5 Stations in Harwich
8 Stations in Barnstable

Amount expended during the year, \$990.40.

LICENSES AND PERMITS

During the year 69 licenses were granted for work to be done in tide waters, great ponds, Connecticut River and Merrimack River and 114 permits for miscellaneous purposes. The Department also approved 65 permits granted by cities and towns for the construction and maintenance of fish weirs in tide water.

EXPENDITURES FOR DEVELOPMENT AND IMPROVEMENT IN BOSTON HARBOR, 1859 - 1932, INCLUSIVE

<i>Payments</i>	<i>To Nov. 30, 1931</i>	<i>1932</i>	<i>Total</i>
Boston Harbor	\$1,518,899 47 ¹		
Streets Piers and Railroads		\$84 67	
Maintenance of Property		457 33	
Dredging and filling		30,835 24	
Special appropriation		64,932 46	\$1,615,209 17
Commonwealth Flats, East Boston	3,093,326 83 ²	—	3,093,326 83

¹ Contribution by Quincy Market Cold Storage and Warehouse Corporation in 1921 \$4,000 00
By Bethlehem Ship Building Corporation in 1930 10,000 00

² Appropriated by City of Boston in 1926 10,000 00

EXPENDITURES FOR DEVELOPMENT AND IMPROVEMENT — <i>Continued</i>			
<i>Payments</i>	<i>To Nov. 30, 1931</i>	<i>1932</i>	<i>Total</i>
Commonwealth Flats, South Boston	4,892,123 69	—	4,892,123 69
Castle Island	740,353 71		
Dredging and filling		1,706 20	
Streets piers and railroads		145 00	742,204 91
Commonwealth Pier No. 5, South Boston:			
Construction	4,014,790 45	—	4,014,790 45
Maintenance	614,542 54	72,968 82	687,511 36
Dredging	22,050 36	—	22,050 36
Operation and Supervision	1,536,248 59	121,693 72	1,657,942 31
Commonwealth Pier No. 1, East Boston:			
Construction	1,199,703 23	—	1,199,703 23
Operation and supervision	112,425 89	7,821 80	120,247 69
Maintenance	15,547 05	4,370 10	19,917 15
Commonwealth Pier No. 6, South Boston:			
Construction	1,092,149 06	—	1,092,149 06
Maintenance	51,937 90	—	51,937 90
Dry Dock	3,169,651 15 ³	—	3,169,651 15
Hayward Creek	385,979 61 ⁴	—	385,979 61
Mystic River	428,897 17 ⁵	735 78	429,632 95
Malden River	32,268 70 ⁶	535 84	32,804 54
Chelsea Creek	60,561 88	—	60,561 88
Commercial Point, Dorchester Bay	53,213 10	—	53,213 10
Maintenance of Property of Commonwealth (in addition to maintenance items listed above)	344,805 04	19,339 76	364,144 80
	\$23,379,475 42	\$325,626 72	\$23,705,102 14

³ Additional amount paid by State Treasurer from Development of the Port of Boston Loan Sinking Fund in settlement of claims 17,877 73

⁴ Contributions by Massachusetts Oil Refining Company and Bethlehem Ship Building Corporation 38,609 00

Paid by State Treasurer for land taking 3,725 27

⁵ Contribution by Merrimac Chemical Company

in 1920 15,000 00

in 1922 4,182 50

Contribution by Beacon Oil Company in 1920 50,000 00

⁶ Expended by United States Government 31,000 00

Contribution by Standard Oil Company of New York in 1922 600 00

EXPENDITURES AND CONTRIBUTIONS FOR IMPROVEMENT OF SMALL HARBORS AND CHANNELS WITHIN BOSTON HARBOR, UNDER THE DIRECTION OF THE DEPARTMENT OF PUBLIC WORKS AND ITS PREDECESSORS, FROM 1893 TO 1932, INCLUSIVE

<i>Locality and Character of Works</i>	Contributions by Municipality or Others	Total Expenditure
Cottage Park Channel, Winthrop, dredging	\$6,250 00	\$37,967 29
Dorchester, easterly shore, dredging and survey	1,000 00	210,742 60
Harbor View, dredging	—	146 00
Hingham Harbor, dredging	6,500 00	41,595 12
Houghs Neck, Quincy, dredging	7,500 00	46,088 31
Island End River, Everett, survey	—	264 10
Jeffries Point Channel, dredging		4,563 93
Mystic River (near Lawrence and Wiggin Wharf) dredging	—	5,927 70

EXPENDITURES AND CONTRIBUTIONS, ETC. — *Continued*

<i>Location and Character of Work</i>	Contribution by	
	Municipality	Total
	or Others	Expenditure
Neponset River, dredging	10,000 00	109,392 28
Old Harbor Cove, dredging	—	10,520 48
Orient Heights Channel, dredging	—	45,412 38
Pemberton Point, Hull breakwater	60,000 00	90,520 98
Pleasant Park Yacht Club Channel dredging	3,000 00	16,029 96
Point Allerton, Hull, sea wall	50,000 00	75,127 05
Point Shirley, Winthrop	—	3,713 37
Quincy Bay, dredging	7,150 00	71,807 56
Shirley Gut, Boston and Winthrop, dredging	—	2,110 96
South Boston, Southerly Shore, dredging	—	129,542 08
Stony Beach, Hull, sea wall	—	12,326 09
Town River, Quincy, survey and dredging	16,050 00	57,663 25
Weir River, Hull, dredging	45,000 00	205,336 48
Wessagussett Channel, dredging	—	815 20
Weymouth Fore River, dredging	8,250 00	70,077 49
Winthrop Harbor Channels, dredging	17,192 00	73,984 22
	<hr/>	<hr/>
	\$237,892 00	\$1,321,674 88

EXPENDITURES AND CONTRIBUTIONS FOR RIVER AND HARBOR WORK FROM
DECEMBER 1, 1931, TO NOVEMBER 30, 1932

<i>Location and Character of Work</i>	Contributions	Expenditures
Acushnet River, survey	—	\$18 00
Allens Harbor, Harwich, timber fence, riprap and jetties	—	3,910 84
Barnstable Harbor, Barnstable, dredging	\$1,000 00	
Brant Rock, Marshfield, sea walls and riprap	—	84,547 84
Cape Cod Canal Pier, Bourne, construction	—	170,893 32
Cape Poge, Edgartown, survey	—	133 05
Centerville River, Barnstable, removing stumps	—	236 25
Chatham, survey	—	852 62
Cohasset Harbor, Cohasset, dredging	—	2,756 16
Cuttyhunk Harbor, survey	—	334 67
Falmouth (Menauhant Shore), jetties bulkheads and riprap	3,100 00	6,075 33
Geological Survey Trust Fund	2,520 00	290 10
Great Ponds, survey	—	6,992 79
Green Harbor, Marshfield, dredging	—	6,956 21
Gun Rock Point, Hull, jetties and sea wall repairs	—	618 79
Harwich Shore, near Chatham Line, stone jetty	350 00	1,206 75
Herring River, Harwich, stone jetty and surveys	—	645 01
Hyannis Harbor, Barnstable, bulkhead and dredging	21,750 00	11,247 56
Improvement of Rivers and Harbors, general expenses	—	8,405 07
Lagoon Pond, Tisbury and Oak Bluffs, dredging and stone jetty	13,500 00	16,166 29
Lake Anthony, Oak Bluffs	500 00	
Lake Tashmoo, Tisbury, survey	—	30 64
Long Beach, Rockport, concrete sea wall	—	9,390 57
Manchester Harbor, Manchester, survey	—	13 55
Menamsha Creek, Chilmark, riprap and fill	—	13,146 27

EXPENDITURES AND CONTRIBUTIONS, ETC. — *Continued*

<i>Location and Character of Work</i>	<i>Contributions</i>	<i>Expenditures</i>
New Bedford State Pier, Operation and Maintenance	—	10,828 29
New Bedford State Pier, Construction and Alterations	—	13,647 79
Oak Bluffs, sea wall repairs	—	21 80
Plymouth Harbor, survey	—	38 10
Plymouth State Property, maintenance	—	4,248 44
Province Lands, Provincetown, reclamation	—	4,698 79
Salisbury Beach, survey	—	1,667 16
Saugus River, Lynn and Saugus, survey	—	2,096 01
Scituate shore protection:		
First and Second Cliffs, Scituate, riprap	—	5,424 81
North Scituate, Surfside, sea wall and jetties	—	1,602 23
Sand Hills, Scituate, sea walls, jetties and concrete ramp	—	5,124 26
Humarock Beach, Scituate, sea wall and jetties	—	3,772 79
Third Cliff, Scituate, riprap	—	1,402 87
Scituate Harbor, Scituate, survey	—	146 00
South Harwich, stone jetty	2,500 00	3,701 31
Swampscott, survey	—	103 46
Taunton River, survey	—	960 22
Waquoit Bay, Falmouth, timber bulkhead and jetties	—	4 759 38
Warrens Cove, Plymouth, survey	—	192 49
Water Conservation	—	4,000 00
West Chop, Tisbury, stone jetties	2,500 00	3,721 75
West Harwich, Harwich, stone jetties	—	5,030 29
Westport Harbor, Westport, jetty repairs	—	2,431 19
Winthrop Shore, Withrop, survey	—	24 52
Witchmere Harbor, Harwich, survey	—	135 67
	<hr/>	<hr/>
	\$47,720 00	\$424,647 30

EXPENDITURES AND CONTRIBUTIONS FROM 1893 TO 1932, INCLUSIVE,
FOR RIVER AND HARBOR WORK, UNDER THE DIRECTION OF THE
DEPARTMENT OF PUBLIC WORKS AND ITS PREDECESSORS
(EXCEPTING BOSTON HARBOR)

<i>Location and Character of Work</i>	<i>Contribution by Municipality or Others</i>	<i>Total Expenditure</i>
Acushnet River, inspection and dredging	—	\$119,810 10
Allens Harbor, Harwich, shore protection dredging, riprap and jetties	\$12,427 50	38,707 80
Allens Pond, Dartmouth, survey	—	195 95
Angle Tree Monument, reservation	—	1,306 22
Annisquam River, Gloucester, dredging, removing ledges and riprap	13,250 00	171,498 69
Apponagansett Harbor and River, Dartmouth, survey, dredging and stone breakwater	—	55,786 05
Barnstable Harbor, Barnstable, dredging	7,500 00	30,693 16
Bass River, Beverly, dredging	55,535 75	81,075 56
Bass River, Dennis and Yarmouth, jetties dredging and survey	22,595 00	182,413 47
Beach Street, Scituate — See Scituate		
Beverly Harbor, Beverly, dredging	—	50,000 00 ¹
Brant Rock, Marshfield, shore protection	111,503 66	214 973 29

EXPENDITURES AND CONTRIBUTIONS, ETC. — *Continued*

<i>Location and Character of Work</i>	Contribution by Municipality or Others	Total Expenditure
Brewster, Skaket Inlet, survey	—	617 19
Bucks Creek, Chatham, jetties, survey and dredging	2,500 00	39,719 69
Buzzards Bay, Falmouth, survey	—	166 11
Cape Cod Canal Pier, Bourne	—	170,893 32
Cape Poge, Edgartown, cut through beach, jetties and riprap	16,500 00	42,690 09
Cataumet Harbor — See Megansett Harbor		
Cedar Point, Scituate — See Scituate		
Centerville River, Barnstable, dredging	19,711 50	44,329 77
Chatham, riprap and surveys	10,500 00	20,665 81
Cohasset Harbor, Cohasset, breakwater and dredging	42,691 88	116,191 93
Concord River, Billerica, removing boulders	150 00	1,664 59
Connecticut River, investigation of navigation and surveys	—	8,878 96
Connecticut River, Agawam protective work	—	18,814 42
Connecticut River, Chicopee, survey, wall and riprap	640 00	25,789 02
Connecticut River, Hadley protective work, diversion wall and survey	5,000 00	118,740 95 ²
Connecticut River, Hatfield, dikes and riprap	1,000 00	51,238 61
Connecticut River, Holyoke, dredging and protective work	1,991 29	9,253 27
Connecticut River, Holyoke, marking and lighting old piers	—	1,195 32
Connecticut River, Northampton, protective work	—	1,524 20
Connecticut River, Northfield, riprap	—	9,028 90
Connecticut River, South Hadley, wall	1,000 00	7,379 58
Connecticut River, Springfield, and West Springfield, protective work	—	12,510 08 ³
Conservation of Waters, investigation	—	80,764 54
Cotuit Harbor, Barnstable, dredging, survey and bulkhead repairs	13,183 38	83,243 85
Cuttyhunk Harbor, Gosnold, jetties and dredging	9,000 00	71,088 85
Deacons Pond Harbor — See Falmouth Inner Harbor		
Duxbury Bay and Harbor, dredging	27,000 00	92,653 35
East Bay, Osterville, jetties, dredging and removing scows	10,000 00	70,924 23
Edgartown Harbor, Edgartown, survey and cut in beach	300 00	3,496 64
Ellisville Harbor, Plymouth, dredging and jetty repairs	—	20,174 18
Essex County Beaches, survey	—	1,000 00
Essex River, Essex, dredging	—	76,304 33 ⁴
Fall River Harbor, improvement	—	1,130 18
Falmouth Heights, Falmouth, sea wall and riprap	22,210 04	70,667 71

¹ Expended by United States Government.² From 1888 inclusive.³ From 1891 inclusive.⁴ \$5,000.00 expended by U. S. Government.

EXPENDITURES AND CONTRIBUTIONS, ETC. — *Continued*

<i>Location and Character of Work</i>	Contribution by Municipality or Others	Total Expenditure
Falmouth Inner Harbor, dredging, jetties, wall and riprap	31,500 00	150,396 26
Falmouth, Menauhant Shore, bulkheads, jetties and riprap	3,100 00	6,075 33
First and Second Cliffs, Scituate — See Scituate		
Fresh Water Cove, Gloucester, dredging	3,300 00	17,477 53
Gay Head, survey	—	555 42
Geological Survey Trust Fund	2,520 00	290 10
Glades, North Scituate, See Scituate		
Gloucester Fish Pier	—	396 91
Gloucester, Western Avenue, sea wall	35,000 00	60,000 00.
Gloucester Harbor, Gloucester, dredging and removing ledges	15,000 00	148,786 71
Great Head, Winthrop — See Winthrop Shore		
Great Ponds, survey	—	25,333 34
Green Harbor, Marshfield, jetties, dredg- ing and survey	42,500 00	165,469 37
Gun Rock Point, Hull, breakwater and sea wall repairs	16,135 41	78,877 92
Harbor Cove, Gloucester, survey and dredg- ing	3,866 00	25,155 04
Harwich Shore, near Chatham Line, stone jetty	350 00	1,206 75
Herring Creek, Scituate, survey	—	253 76
Herring River, Harwich, jetties, dredging and riprap	36,100 00	132,029 97
Herring River, Wellfleet, dikes and ditches	10,000 00	34,509 38
Hoosac River, North Adams, excavation and survey	—	21,271 67
Housatonic River, Sheffield, survey	—	2,011 29
Hull, sea wall and jetties	8,882 06	38,485 08
Humarock Beach, Scituate — See Scituate		
Hyannis Harbor, bulkhead and dredging	21,750 00	11,247 56
Hyannisport, Barnstable, survey and breakwater	2,500 00	65,017 76
Improvement of Rivers and Harbors, gen- eral expenses	—	47,920 59
Ipswich River, Ipswich, jetty, wall, riprap and dredging	3,800 00	59,079 55
Kings Beach, Swampscott, removal of ob- struction	—	166 41
Lagoon Pond, Tisbury and Oak Bluffs dredging and jetty	13,500 00	16,476 04
Lake Anthony, Oak Bluffs, jetties and dredging	15,500 00	97,411 51
Lake Quannapowitt, Wakefield, investiga- tion	—	345 32
Lake Tashmoo, Tisbury, survey	—	432 88
Lewis Bay, Barnstable, survey and dredg- ing	18,809 29	66,804 73
Little Harbor, Cohasset, survey	500 00	1,476 77
Little Harbor, Marblehead, dredging	2,500 00	11,166 16
Little River, Gloucester, survey	—	862 93
Lobster Cove, Gloucester, dredging	4,500 00	61,603 36
Long Beach, Rockport, sea wall	26,000 00	52,516 31
Lynn Harbor, Lynn, anchorage basin, sur- vey and dredging	5,200 00	121,609 22

EXPENDITURES AND CONTRIBUTIONS, ETC. — *Continued*

<i>Location and Character of Work</i>	Contribution by Municipality or Others	Total Expenditure
Lynn Harbor and Saugus River, dredging and filling	37,500 00	163,431 53
Manchester Harbor, Manchester, survey, jetties and dredging	83,000 00	189,707 59
Mattapoissett Harbor, survey	—	255 48
Megansett Harbor, Bourne & Falmouth, dredging	12,730 00	52,116 66
Menamsha Inlet, Chilmark and Gay Head, jetties, dredging, sea wall and riprap	2,700 00	130,243 43
Merrimack River, investigation	—	1,208 50
Mill River, Gloucester, survey and dredging	300 00	24,899 59
Mitchells River, Chatham, survey and dredging	6,000 00	23,113 92
Monument Beach, Bourne, survey	—	326 40
Nahant, survey	—	82 15
Namequoit River and Pleasant Bay, dredging	5,500 00	28,529 62
Nantucket, survey of Sesachacha Pond	—	110 66
Nantucket Harbor, dredging	5,000 00	58,982 52
Nauset Harbor and Town Cove, Orleans, dredging	2,000 00	10,671 24
New Bedford Harbor, dredging	—	18,856 57
New Bedford State Pier, pier shed and dredging	13,446 74* ⁵	550,419 42
New Bedford State Pier, operation and maintenance	—	68,107 40
Newburyport Harbor, survey	—	115 97
Nobscusset Harbor, Dennis, breakwater, dredging and riprap	1,950 00	41,385 22
North River, Marshfield, survey and removing rocks	1,800 00	8,658 75
North River, Salem, survey	—	704 52
North Scituate—See Scituate	—	—
Oak Bluffs, removing rocks	—	594 95
Oak Bluffs, sea walls, bulkhead and jetties	52,500 00	141,099 57
Ocean Grove, Swansea, survey	—	143 23
Onset Bay, Wareham, survey and dredging	1,000 00	15,295 89
Orleans, survey	—	104 18
Palmers Pond, Falmouth, survey	—	358 76
Pamet River, Truro, survey, dredging and repairing jetties	1,200 00	198,010 32
Paskamansett River, Dartmouth, dredging and jetty	—	5,227 68
Penikese Island, Gosnold, pile wharf and survey	—	5,192 95
Pines River, Revere and Saugus, survey	—	904 80
Pleasant Bay, Chatham, dredging	600 00	2,364 33
Plum Island River, Newbury and Newburyport, survey	—	983 31
Plymouth Harbor, dredging and removing old piling	92,794 55* ⁶	324,565 02
Plymouth Memorial Park, maintenance	—	44,649 41
Point Shirley, Winthrop — See Winthrop Shore		

⁵ Paid by Surety Company.⁶ \$57,000.00 expended under direction of U. S. Government.

EXPENDITURES AND CONTRIBUTIONS, ETC. — *Continued*

<i>Location and Character of Work</i>	Contribution by Municipality or Others	Total Expenditure
Poponessett Bay, Barnstable and Mashpee, dredging	—	46,252 33
Powow River, Amesbury, dredging channel and riprapping wall	—	502 94
Province Lands, Provincetown, reclamation	—	161,934 58
Provincetown Harbor, shore protection	75 00	28,730 81
Quamquisset Harbor, Falmouth, survey	—	710 31
Quansett Harbor, Orleans, survey and dredging	500 00	2,194 50
Red Brook Harbor, Bourne, removing pier	—	275 00
Revere, stone breakwater	—	60,397 93
Rock Harbor, Orleans, dredging	2,400 00	20,832 51
Rockport Harbor, Rockport, dredging and removing rocks	4,750 00	32,897 46
Salem Harbor, Salem, survey	—	1,509 92
Salisbury Beach, survey	—	3,064 22
Salt Pond River, Eastham, survey	—	210 11
Salters Point, Dartmouth, breakwater	4,500 00	42,939 57
Sand Hills, Scituate—See Scituate		
Sandwich Harbor, Sandwich, dredging channel, riprap and jetties	—	80,579 84
Saugus River, Lynn & Saugus, survey and dredging	2,000 00	22,941 18
Scituate, shore protection	37,500 00	
Beach Street, Scituate, wall and breakwater	17,333 52	34,782 50
Cedar Point wall and breakwater	21,446 64	41,298 70
First & Second Cliffs, Scituate, wall and riprap	2,797 92	19,473 77
Glades, North Scituate, filling and riprap	13,250 78	30,737 96
Humarock Beach, Scituate, survey, wall and jetties	37,816 38	83,545 51
North Scituate, Surfside, spur (and) jetties	2,194 68	29,831 42
Sand Hills, Scituate, wall and jetties	4,511 26	33,792 06
Third Cliff, Scituate, riprap and survey	75,193 10	127,778 27
General surveys at Scituate	—	383 24
Scituate Harbor, dredging and surveys	53,300 00	206,011 94
Scorton Harbor, Sandwich, jetty and dredging	500 00	17,774 34
Seapuit River, Barnstable, dredging	13,000 00	25,088 55
Sesuit Harbor, Dennis, jetty	1,500 00	24,555 10
Shirley Gut, survey	—	97 05
Sippican Harbor, Marion, survey	—	615 66
Smith's Cove, Gloucester, survey and dredging	3,875 00	13,466 16
South Harwich, stone jetties and riprap	2,500 00	3,701 31
South River, Marshfield and Scituate, survey	—	724 85
South River, Salem, dredging	3,000 00	13,462 66
South Watuppa Pond, Fall River, fenders and excavation	—	203 42
Stage Harbor, Chatham, dikes and survey	—	10,803 01
Swampscott, survey	—	103 46
Taunton, Brockton waterway, investigation	—	5,278 18
Taunton River, survey and dredging	42,500 00	31,561 95
Taunton River, Boston Harbor Canal, survey	—	9,932 75

EXPENDITURES AND CONTRIBUTIONS, ETC. — *Continued*

<i>Location and Character of Work</i>	Contribution by Municipality or Others	Total Expenditure
Third Cliff Scituate—See Scituate		
Taunton River, Massachusetts Bay Canal, survey	—	11,786 71
Vineyard Haven Harbor, repairing sea wall	2,380 50	11,945 01
Vineyard Haven Harbor, Tisbury, break- water and dredging	1,000 00	45,518 25
Waquoit Bay, Falmouth, Breakwater, wall bulkheads and dredging	17,500 00	98,073 78
Wareham River, Wareham, survey and dredging	5,000 00	42,567 93
Warrens Cove, Plymouth, sea wall and sur- vey	9,713 98	25,292 35
Watch Hill, Chatham, survey and riprap	—	14,968 75
Water Conservation—See Conservation of Water		
Wellfleet Harbor, Wellfleet, survey and dredging	1,500 00	17,600 29
West Bay, Barnstable and Osterville dredg- ing, jetties and riprap	16,128 07	114,517 57
West Chop, Tisbury, stone jetties	2,500 00	3,721 75
West Falmouth Harbor, Falmouth, sur- veys, dredging and breakwater	11,473 75	63,520 95
West Harwich, shore protection	6,000 00	25,843 59
Westfield River, Westfield, survey and jetties	—	6,037 29
Westport Harbor, Westport, jetty exten- sion and repairs	—	21,928 88
Wild Harbor, Falmouth, jetty and dredging	15,000 00	55,128 66
Winthrop Shore, Winthrop, sea walls and protective work	40,500 00	97,582 04
Witchmere Harbor, Harwich, jetties and dredging	3,500 00	63,551 21
Woods Hole, Great Harbor, Falmouth, dredging	1,500 00	6,968 86
Wrecks, removal from tide water	—	20,283 69
Yarmouthport Harbor, survey	7,000 00	95,977 37
Totals	1,536,164 63	7,967,132 39

FEDERAL APPROPRIATIONS AND EXPENDITURES

Federal appropriations and expenditures for improvement of rivers and harbors in Massachusetts from the establishment of the government to the close of the fiscal year ending June 30, 1932, are shown in the following tables furnished the Chief of Engineers, U. S. Army:—

TABLE NO. 1.—*Localities at Present under Improvement*
(Compiled from the Annual Report of the Chief of Engineers, U. S. Army,
for the fiscal year ending June 30, 1932.)

<i>Locality</i>	<i>Expenditures</i>	<i>Appropriations</i>
Newburyport Harbor	\$500,900 00	\$500,900 00
Gloucester Harbor	545,575 63	548,183 00
Beverly Harbor	246,690 41	246,690 41 ¹
Salem Harbor	107,956 57	107,956 57
Lynn Harbor	585,007 91	646,937 00
Mystic River	306,684 84	306,684 84
Boston Harbor	13,489,955 55	13,527,362 58
Dorchester Bay and Neponset River	128,176 44	128,176 44
Weymouth Fore River	641,150 00	641,150 00 ²
Weymouth Back River	27,000 00	27,000 00
Scituate Harbor	126,590 98	126,590 98
Plymouth Harbor	421,184 84	421,184 80 ³
Cape Cod Canal	12,148,541 47	12,187,555 45
Operating and Care, Cape Cod Canal	1,070,477 21	1,089,000 00
Provincetown Harbor	348,062 72	348,062 72
Pollock Rip Shoals	1,328,416 26	1,331,402 01
Cross Rip Shoals, Nantucket Sound	25,507 31	27,000 00
Harbor of Refuge at Nantucket	694,582 83	694,582 83
New Bedford and Fairhaven Harbor	1,229,413 90	1,232,546 85
Fall River Harbor	681,863 01	689,614 47
Taunton River	273,989 37	314,329 19
	<hr/>	<hr/>
	\$34,927,727 21	\$35,142,910 14

TABLE NO. 2.—*Localities in Which Work is Not Now in Progress*
(Compiled from data furnished by the United States Treasury
Department and the Chief of Engineers, U. S. Army)

<i>Locality</i>	<i>Expenditures</i>	<i>Appropriations</i>
Merrimack River	\$404,466 72	\$404,466 72
Malden River	149,950 00	149,950 00 ⁴
Sandy Bay, Cape Ann, Harbor of Refuge	1,941,478 00	1,941,478 00
Bass River	20,150 34	20,150 41
Buzzard's Bay Harbor	2,500 00	2,500 00
Canapitset Channel	5,312 54	9,800 00
Chatham Harbor	12,171 36	13,732 79
Cohasset Harbor	10,000 00	10,000 00
Duxbury Harbor	37,000 00	37,000 00
East Dennis Breakwater	7 57	1,500 00
Edgartown Harbor	25,000 00	25,000 00
Essex River	30,000 00	30,000 00
Hingham Harbor	38,316 58	39,000 00
Hyannis Harbor	221,267 07	221,267 07
Ipswich River	5,617 91	7,500 00
Kingston Harbor	8,940 09	10,000 00
Little Harbor, Woods Hole	18,000 00	18,000 00
Manchester Harbor	23,985 57	24,300 00
Marblehead Harbor	833 43	1,900 00
Martha's Vineyard Harbor	7,000 00	7,000 00
Powow River	50,940 72	51,000 00
Rockport Harbor	91,229 25	91,232 57
Town River	37,577 41	37,577 41
Vineyard Haven Harbor	55,387 35	60,000 00
Wareham Harbor	95,997 30	96,236 00
Wellfleet Harbor	11,365 57	16,000 00

<i>Locality</i>	<i>Expenditures</i>	<i>Appropriations</i>
Westport Harbor and River	3,000 00	3,000 00
Winthrop Harbor	9,000 00	9,000 00
Woods Hole Channel	343,599 92	344,000 00
Total	<u>\$3,660,094 69</u>	<u>\$3,682,590 97</u>

RECAPITULATION

	<i>Expenditures</i>	<i>Appropriations</i>
Total of Table No. 1.	\$34,927,727 21	\$35,142,910 14
Total of Table No. 2.	3,660,094 69	3,682,590 97
	<u>\$38,587,821 90</u>	<u>\$38,825,501 11</u>

¹ Exclusive of \$100,000 contributed funds.

² Exclusive of \$100,000 contributed funds.

³ Exclusive of \$108,400 contributed funds.

⁴ Exclusive of \$62,000 contributed funds.

EXPENDITURES ON BOSTON HARBOR AND ITS TRIBUTARIES TO JUNE 30, 1932

(The tributaries given are those now under improvement and do not include tributaries heretofore improved.)

<i>Locality</i>	<i>Expenditures</i>	<i>Appropriations</i>
Boston Harbor proper ¹	\$13,489,955 55	\$13,527,362 58
Mystic River	306,684 84	306,684 84
	<u>\$13,796,640 39</u>	<u>\$13,834,047 42</u>

¹ Including Chelsea Creek.

CONTRACTS MADE BY THE DEPARTMENT OF PUBLIC WORKS

CON-TRACT No.	Work	Contractor	Date
269	Lagoon Pond, Oak Bluffs and Tisbury,—dredging and jetty . . .	Merritt-Chapman & Scott Corporation	Aug. 23, 1932
288	Third Cliff, Scituate,—riprap . . .	John P. Cavanagh	Aug. 25, 1931
290	Marshfield,—sea wall at Fieldston . . .	Louis B. Cadario and Sons	Sept. 15, 1931
291	Brant Rock, Marshfield,—riprap . . .	Raymond A. Bergesson	Sept. 15, 1931
295	Commonwealth Pier 1,—East Boston . . .	Michael Solimando	Oct. 27, 1931
296	Westport Harbor,—repairs to stone jetty	George W. Starbuck	Nov. 3, 1931
297	Scituate Sea Walls, Sand Hills and Scituate Harbor	Thomas Joseph McCue	Oct. 27, 1931
298	Menamsha Inlet, Chilmark and Gay Head,—protective work	Merritt-Chapman & Scott Corporation	Nov. 3, 1931
299	Hull,—sea walls at Stony Beach and Pemberton,—repairs and rebuilding	Bradford Weston	Nov. 10, 1931
300	Winthrop Harbor,—removal of boulders from basin of Winthrop Yacht Club	Trimount Dredging Company	Nov. 10, 1931

AND IN FORCE DURING THE YEAR ENDING NOV. 30, 1932

Condition of Work	Contract Prices	Amount paid during Year ending Nov. 30, 1932	Total paid to Nov. 30, 1932	Estimated Amount of Contract
In progress	For dredging and disposing of dredged material on marsh and flats by hydraulic process, including the construction of necessary dikes and sluices, 35 cents for each cubic yard measured in place. For removing and disposing of all boulders \$25 for each cubic yard. For each ton of riprap or stone chips furnished and placed in completed work, \$3.23.	\$15,117 38	15,117 38	\$23,770 —
Completed Dec. 28, 1931	For furnishing each ton of stone riprap and depositing it in place, including all cleaning up and incidental work, \$2.24.	1,361 46	5,205 54	4,480 —
Completed Dec. 23, 1931	For furnishing materials and constructing concrete sea wall and jetties, \$7.48 per cubic yard of concrete measured in completed work. For furnishing materials and constructing concrete apron and wing walls, the lump sum of \$1,250 for completed work. For furnishing and placing heavy stone riprap, \$3 per ton of 2,000 pounds in place in completed work.	22,264 28	83,706 24	69,894 —
Completed Jan. 29, 1932	For each ton of riprap and chips furnished and placed in completed work, including removal of remains of old timber bulkheads, storing of material and other incidental work, \$2.00	17,995 75	29,096 75	14,000 —
Completed Jan. 15, 1932	Unit prices.	2,714 92	2,714 92	2,705 40
Completed Dec. 17, 1931	For each ton of riprap or stone chips furnished and placed in completed work, \$5.40.	2,225 21	2,225 21	2,160 —
Completed Dec. 19, 1931	For furnishing material and constructing concrete top, face, footing and jetties, \$8.70 for each cubic yard of concrete measured in completed work. For furnishing $\frac{3}{4}$ " twisted steel reinforcing rods, 4 cents per pound.	3,053 29	8,455 01	8,050 —
Completed Feb. 26, 1932	For furnishing material and constructing and repairing light wall, \$8.70 for each cubic yard of concrete measured in completed work. For each ton of riprap or stone chips furnished and placed in the completed work, \$4.19. For furnishing and placing 340 cubic yards of filling, the lump sum of \$300.	12,777 82	12,777 82	12,451 —
Completed Jan. 18, 1932	For furnishing all labor and materials and constructing new concrete sea wall, \$10 for each cubic yard of concrete measured in completed work. For furnishing labor and materials and constructing concrete footings under and in front of existing walls, \$12 for each cubic yard of concrete measured in the completed work.	2,929 94	2,929 94	2,290 —
Completed Mar. 30, 1932	For towing equipment and crew to site of work and returning after completion of work, the lump sum of \$95. For rental of floating plant and all necessary equipment including crew and all incidental expenses \$89 for each day of eight hours the equipment is used on the work.	946 —	946 —	829 —

CONTRACTS MADE BY THE DEPARTMENT OF PUBLIC WORKS

CON-TRACT No.	Work	Contractor	Date
301	Allens Harbor, Harwich,—timber fence and riprap	George W. Starbuck	Nov. 24, 1931
302	Marshfield,—concrete sea wall and riprap south of Brant Rock	Philip B. Oakman	Dec. 1, 1931
303	Commonwealth Pier 5, South Boston,—installation of oil burning equipment in heating plant .	Buckley & Scott Utilities, Inc. .	Dec. 1, 1931
304	Removal of hulk of SS "Coyote" from tide water at Apple Island, Boston	Blakeslee Rollins Corporation .	Dec. 2, 1931
305	Commonwealth Pier 5, movable gangway	New England Structural Company .	Dec. 15, 1931
306	West Harwich Shore,—stone jetties	Joseph W. Nickerson	Dec. 15, 1931
307	Scituate Harbor,—removal of wreck	John J. Johnson	Apr. 12, 1932
308	Removal of hulks adjacent to Border and Condor Sts., East Boston	New England Maintenance Co., Inc.	Dec. 29, 1931
309	Removal of hulks from property of Frederick H. Viaux, Condor St., East Boston	A. A. Hersey & Son Company .	Feb. 12, 1932
310	Removal of hulks from property of Jessie D. Wright, Condor St., East Boston	Merritt-Chapman & Scott Corporation	Feb. 9, 1932
311	New Bedford State Pier, floating fender logs	Frank C. Taylor	Mar. 8, 1932
312	Cape Cod Canal, Bourne,—construction landing pier and dredging .	Merritt-Chapman & Scott Corporation	Apr. 26, 1932
313	Removal of hulks from property of Boston Port Development Co., at Jeffries Point, East Boston .	New England Maintenance Co., Inc.	Mar. 15, 1932

AND IN FORCE DURING THE YEAR ENDING NOV. 30, 1932

Condition of Work	Contract Prices	Amount paid during Year ending Nov. 30, 1932	Total paid to Nov. 30, 1932	Estimated Amount of Contract
Completed Jan. 19, 1932	For each hour worked by diver and tender, including equipment, \$5 for each hour employed on the work. For each linear foot of fence measured in place, including the furnishing of labor and materials and the performance of all excavation, back-filling and incidental work, the sum of \$7.75.	1,792 05	1,792 05	1,366 05
Completed May 14, 1932	For each ton of riprap furnished and placed, including all grading and incidental work, \$4.00. For furnishing materials and constructing concrete sea wall, \$7.65 for each cubic yard of concrete measured in place in completed work.	24,286 99	24,286 99	19,188 75
Completed May 5, 1932	For furnishing and placing heavy stone riprap and chips against sea wall and bank, \$1.70 for each ton of 2,000 pounds in place in the completed work. Unit prices.	13,764 01	13,764 01	14,039 01
Completed Jan. 11, 1932	For removing hulk and equipment and placing it above high water back of bulkhead on southerly side of Reserved Channel, South Boston, the lump sum of \$6,700.	5,700 —	5,700 —	6,700 —
Completed Mar. 8, 1932	For each linear foot of track furnished and set in place in wharf platform, \$1.68 for each linear foot of track measured in place in the completed work.	4,093 80	4,093 80	4,093 80
Completed Feb. 19, 1932	For furnishing and erecting complete in place the entire superstructure of the gangway, the lump sum of \$3,105. For furnishing and placing heavy stone riprap and granite chips in the jetties, \$2.59 for each ton of 2,000 pounds.	4,266 82	4,266 82	2,590 —
Completed May 20, 1932	For removal and disposal of wreck, the lump sum of \$146.	146 —	146 —	146 —
Completed July 15, 1932	For removal and disposal of hulks on premises of Boston Port Development Company adjacent to Condor and Border Sts., East Boston, the lump sum of \$11,000. (additional work \$3,000.)	14,000 —	14,000 —	14,000 —
Completed May 21, 1932	For removal and disposal of hulks, the lump sum of \$8,570.	8,570 —	8,570 —	8,570 —
Completed Apr. 23, 1932	For removal and disposal of hulks the lump sum of \$8,800.	8,800 —	8,800 —	8,800 —
Completed Mar. 24, 1932	For furnishing and placing each fender log 40 to 60 feet in length, including all bolts and fastenings, as specified, \$4.50 per linear foot of fender measured in place in the completed work. For furnishing and placing each wrought iron chain 4 feet in length the lump sum of \$25.	1,276 94	1,276 94	1,298 —
In progress	Unit prices.	156,101 90	156,101 90	200,618 —
Completed June 23, 1932	For removal and disposal of hulks at premises on Marginal st. adjacent to property of International Glue Company, the lump sum of \$3,000. For removal and disposal of hulks at premises on Marginal Street, adjacent to McDonald's Wharf, the lump sum of \$900.	3,900 —	3,900 —	3,900 —

CONTRACTS MADE BY THE DEPARTMENT OF PUBLIC WORKS

CON-TRACT No.	Work	Contractor	Date
315	Rubble concrete steps over concrete wall at Fieldston, Marshfield	Thomas Whalen & Sons, Inc.	Mar. 29, 1932
316	Filling back of concrete sea wall at Fieldston, Marshfield	Thomas Whalen & Sons, Inc.	Mar. 29, 1932
317	Commonwealth Pier 5,—changes in boiler settings	James C. Grant	Apr. 12, 1932
318	Harwich Shore,—stone jetties and riprap	Arthur K. Finney	May 3, 1932
319	New Bedford State Pier,—repairs to plaster walls by gunite process	Gunite Construction Company	May 10, 1932
320	Falmouth Shore Protection,—Menauhant Road	Sidney W. Lawrence	May 24, 1932
321	Second Cliff, Scituate,—riprap protection	Thomas Whalen & Sons, Inc.	May 31, 1932
322	Commonwealth Pier 5,—Repairs to timber platform	A. A. Hersey & Son Company	June 7, 1932
323	Green Harbor, Marshfield, dredging	Bay State Dredging & Contracting Co.	May 31, 1932
324	Boston Inner Harbor,—Dredging areas at East Boston and South Boston	Bay State Dredging & Contracting Co.	June 14, 1932
325	Hyannis Harbor, Lewis Bay, Barnstable,—timber bulkhead	Thomas Whalen & Sons, Inc.	June 28, 1932
326	Tenean Creek,—dredging	Bay State Dredging & Contracting Co.	June 14, 1932
327	New Bedford State Pier,—steel canopy	McClintic-Marshall Corporation	July 5, 1932

AND IN FORCE DURING THE YEAR ENDING NOV. 30, 1932

Condition of Work	Contract Prices	Amount paid during Year ending Nov. 30, 1932	Total paid to Nov. 30, 1932	Estimated Amount of Contract
Completed June 16, 1932	For all rubble concrete measured in placed in completed work, including furnishing of all material, labor and incidental work, \$6.22 for each cubic yard. For each set of wrought iron railing in place, \$95.	4,764 56	4,764 56	3,873 40
Completed June 14, 1932	For each cubic yard of material furnished, delivered and measured in place in the completed work, 27 cents.	3,512 70	3,512 70	3,240 —
Completed May 5, 1932	For changes in setting of boilers Nos. 3 and 4, including new work and connections, \$2,500. For relining the fronts of boilers Nos. 3 and 4, as specified, \$100.	2,502 50	2,502 50	2,600 —
Completed June 23, 1932	For furnishing and placing heavy stone riprap and granite chips in jetties and in repairing existing structures \$3.33 for each ton of 2,000 pounds.	3,556 97	3,556 97	3,330 —
Completed Aug. 23, 1932	For removing plaster wall on south side of wooden shed and replacing said wall with new gunite wall, the lump sum of \$1,151. For removing plaster walls from south side of steel shed and at southeast corner of pier, and replacing said walls with new gunite walls, the lump sum of \$324. For placing new gunite surface one inch thick on the easterly face of the steel shed at the State Pier, the lump sum of \$995.	2,594 98	2,594 98	2,470 —
Completed Aug. 24, 1932	For each creosoted yellow pine pile furnished and driven in the completed work, \$4.50. For each untreated yellow pine pile furnished and driven in the completed work, \$2.00. For each thousand feet board measure of creosoted yellow pine lumber furnished, driven and set in place, \$86. For each ton of riprap and chips furnished and set in place, \$2.50.	5,324 17	5,324 17	4,311 —
Completed July 15, 1932	For each ton of stone riprap or chips furnished in place in the completed work the sum of \$1.64.	4,445 54	4,445 54	4,616 85
Completed Nov. 29, 1932	Unit prices.	6,161 65	6,161 65	3,784 —
Completed June 17, 1932	For dredging and disposing of dredged material, for each cubic yard, scow measurement, \$1.12. For removing and disposing of all boulders, for each cubic yard \$15.	3,696 —	3,696 —	3,711 —
Completed Oct. 29, 1932	For dredging area at East Boston and disposing of dredged material 37c. per cubic yard, scow measurement. For dredging area at South Boston and disposing of dredged material 37c. per cubic yard, scow measurement. For removing and disposing of boulders \$20 per cubic yard.	28,772 98	28,772 98	38,500 —
In progress	For each linear foot of creosoted timber bulkhead constructed in place, \$11.90.	8,092 —	8,092 —	10,710 —
Completed Aug. 3, 1932	For dredging channel and disposing of dredged material, 48 cents for each cubic yard, scow measurement. For removing and disposing of boulders, \$20 for each cubic yard.	5,388 48	5,388 48	4,820 —
Completed Sept. 2, 1932	For furnishing and erecting steel canopy in place, including all incidental work, the lump sum of \$5,319.	5,484 —	5,484 —	5,484 —

CONTRACTS MADE BY THE DEPARTMENT OF PUBLIC WORKS

CON-TRACT No.	Work	Contractor	Date
328	Commonwealth Pier 5,—reconstruction of boiler settings at heating plant	Caigan Engineering Equipment Company	Aug. 9, 1932
329	Commonwealth Pier 5,—and Viaduct,—reconstruction of concrete beams and slabs	National Gunite Contracting Co.	July 26, 1932
330	Hyannis Harbor, Lewis Bay, Barnstable,—dredging	Saybrook Dredging Company	Aug. 9, 1932
332	West Chop, Tisbury,—shore protection by stone jetties	Joseph W. Nickerson	Aug. 16, 1932
333	Waquoit Bay, Mashpee,—timber bulkhead and jetties	Thomas Whalen & Sons, Inc.	Aug. 30, 1932
334	Sand Hills, Scituate,—rubble concrete ramps	George W. Starbuck	Sept. 6, 1932
335	Brant Rock, Marshfield,—sea wall	A. Piatelli & Company	Sept. 27, 1932
336	Lewis Bay, Hyannis Harbor,—drain and manholes at town landing	Thomas Whalen & Sons, Inc.	Oct. 4, 1932
337	New Bedford State Pier,—lighting system	W. Edward Howarth	Oct. 4, 1932
338	E Street Storehouse,—installation of new electric service	W. D. Smith Electric Co.	Oct. 4, 1932
339	First Cliff, Scituate—riprap	Joseph F. Cavanagh	Oct. 11, 1932
340	Gun Rock—Green Hill,—Hull,—sea wall repairs	Thomas Whalen & Sons, Inc.	Oct. 25, 1932
342	West Harwich Beach,—stone jetty	Sidney W. Lawrence	Nov. 9, 1932
343	Oak Bluffs—repairs to concrete sea wall	Merritt-Chapman & Scott Corporation	Nov. 29, 1932

AND IN FORCE DURING THE YEAR ENDING NOV. 30, 1932

Condition of Work	Contract Prices	Amount paid during Year ending Nov. 30, 1932	Total paid to Nov. 30, 1932	Estimated Amount of Contract
Completed Nov. 17, 1932	For removing and rebuilding settings of boilers No. 1 and No. 2 and the construction of a pit in front of the same, the lump sum of \$3,600.	3,105 90	3,105 90	3,654 —
Completed Sept. 12, 1932	Unit prices.	7,145 01	7,145 01	5,633 20
In progress	For dredging and disposing of dredged material on marsh, flats and behind the bulkhead, by the hydraulic process, or other means, including the construction of necessary dikes, sluices and spillways and incidental work, \$1,889 for each cubic yard measured in place.	—	—	21,534 60
In progress	For removing and disposing of all boulders, \$10 per cubic yard.	—	—	—
In progress	For furnishing and placing heavy stone riprap and granite chips in jetties, the sum of \$4.19 for each ton of 2,000 pounds.	2,884 41	2,884 41	2,095 —
Completed Nov. 28, 1932	For each linear foot of creosoted yellow pine bulkhead furnished and driven in place \$7.75.	1,646 87	1,646 87	1,937 50
Completed Oct. 11, 1932	For each linear foot of creosoted yellow pine jetty furnished and driven in place \$7.75.	—	—	—
Completed Oct. 11, 1932	For furnishing and placing each cubic yard of concrete measured in place in the completed work, including all excavation, backfilling and incidental work, the sum of \$5.87.	444.01	444 01	500 —
In progress	For furnishing material and constructing concrete sea wall, including all incidental work, \$6.65 for each cubic yard of concrete measured in place in the completed work.	3,631 06	3,631 06	6,650 —
Completed Nov. 26, 1932	Unit prices.	698 27	698 27	824 20
Completed Nov. 7, 1932	For furnishing all labor, materials and equipment and installing all electrical work, the lump sum of \$619.51.	577 58	577 58	619 51
Completed Oct. 31, 1932	For furnishing all labor, materials and equipment and installing complete a new electric service the lump sum of \$625.	531 25	531 25	625 —
Completed Nov. 3, 1932	For each ton of stone riprap furnished in place in the completed work, \$1.57.	449 62	449 62	392 50
In progress	For each cubic yard of concrete in place in the completed work, \$8.15.	—	—	896 50
In progress	For each ton of stone riprap furnished in place in the completed work, \$3.12.	—	—	530 40
Not yet begun	For furnishing material and constructing concrete sea wall, including excavation, backfill and all incidental work, \$13 for each cubic yard of concrete measured in place in completed work.	—	—	2,002 50
	For each ton of stone riprap furnished in place in completed work, \$3.75.	—	—	—

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The Commonwealth of Massachusetts

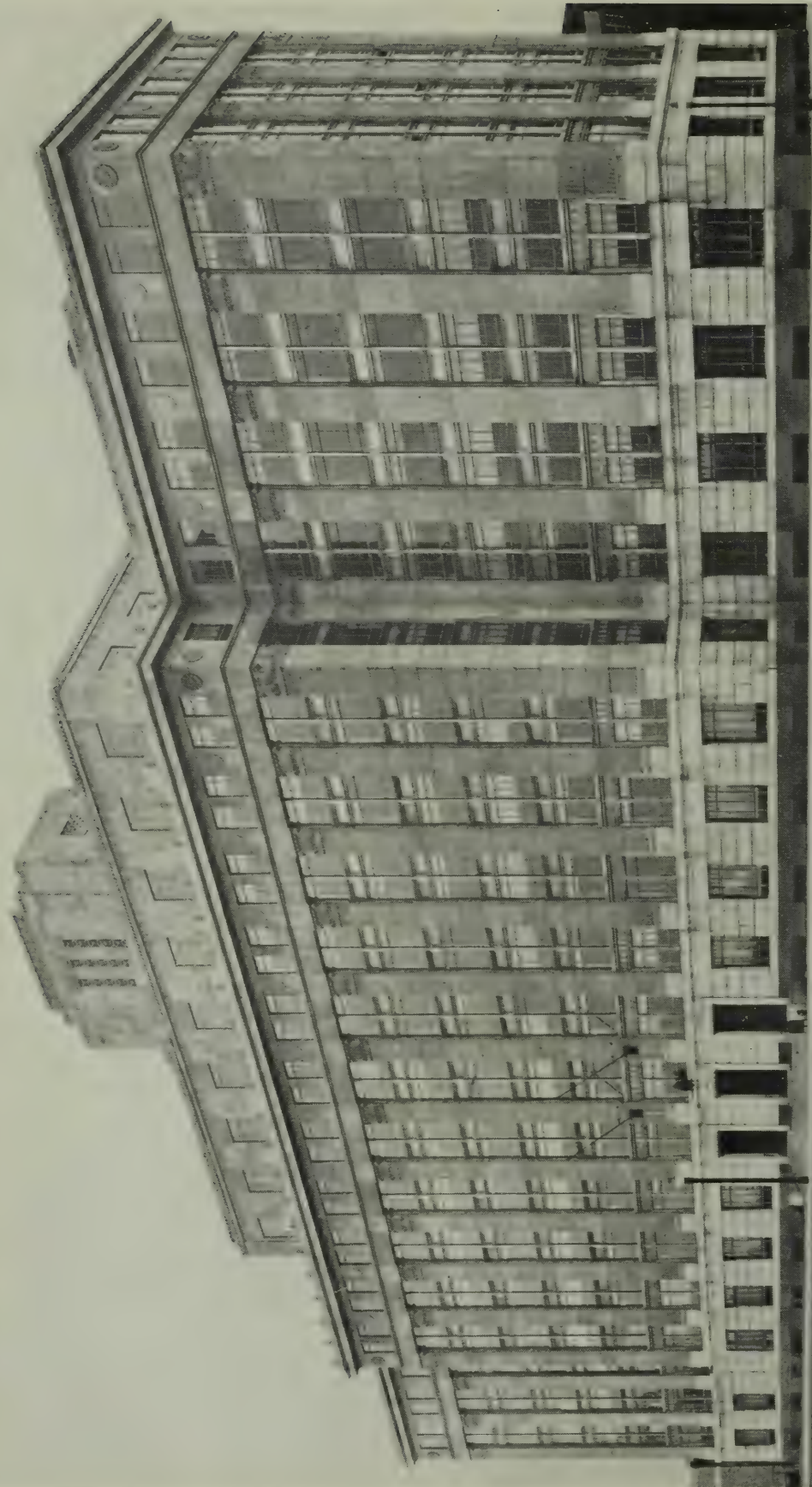
ANNUAL REPORT

OF THE

Department of Public Works

For the Year Ending November 30, 1933





The Commonwealth of Massachusetts

FOURTEENTH ANNUAL REPORT

OF THE

DEPARTMENT OF PUBLIC WORKS

YEAR ENDING NOVEMBER 30, 1933

*To the Honorable Senate and House of Representatives of the
Commonwealth of Massachusetts*

In accordance with the provisions of law, I have the honor, as Commissioner of Public Works, to submit the fourteenth annual report of the Department of Public Works for the year ending November 30, 1933.

The organization of the Department, as defined in Chapter 16, General Laws, as amended by chapter 297, Acts of 1927, was as follows:—

Commissioner of Public Works, FRANK E. LYMAN.

Associate Commissioner, RICHARD K. HALE.

Associate Commissioner, HERMAN A. MACDONALD.

Office Building. The new office building for this Department is intended to accommodate the various offices of the Department which are located in Boston. Any space not immediately needed for its activities is to be assigned for other State departments at reasonable rental figures. This building was authorized by Chapter 122, Acts of 1931, with additional appropriations for completion, namely,—Chapter 21, Acts of 1932 and Item 578b, Chapter 371, Acts of 1933.

The contract plans were prepared during the latter part of 1931 by the Architect, Edward T. P. Graham, of Boston, working in close cooperation with the Department to plan a layout of offices particularly adapted to the Department's functions, providing adequate working spaces and conditions for more efficient administrative conditions than had for many years been possible with the crowded condition at the State House and at Commonwealth Pier 5.

The main contract, for the erection of the building was awarded to F. V. Warren Co., of Philadelphia, Penn., and this was completed on July 15, 1933.

The Department moved its offices from the State House and its engineering offices from Commonwealth Pier 5, from May 4 to 8, 1933. The Registry of Motor Vehicles moved from Commonwealth Pier to the new building from July 1 to 5, 1933.

A number of outstanding projects were completed or begun during the year as follows: work on the new route 3-A, by-passing the thickly settled parts of Cohasset and Scituate; a new highway constructed from Taunton to Middleborough; a by-pass of Hyannis; a new highway from Dedham to Providence; and the Worcester Turnpike completed easterly through Wellesley and Newton. Work was started on new projects as follows: The portion of the Worcester Turnpike route which lies in Brookline; the new highway from Cambridge to Concord; and the work on the North Shore Radial highway connecting East Boston Traffic Tunnel with the main routes leading to the north.

The mileage of new State highways laid out during the year amounted to 28.41 miles, but there were abandoned or discontinued 13.48 miles of State highways, so that the net mileage of State highways amounted to 1824.05 miles at the end of the year.

The Department has constructed, reconstructed and widened 89.75 miles of State highways and built 163.22 miles of roads in cooperation with cities, towns and counties under the provisions of chapter 90, General Laws, and in addition has constructed 2.34 miles of highways under the

provisions of Special Acts. Under the provisions of section 26, Chapter 81, General Laws, the Department has had charge of the repair and maintenance of 9058 miles of public ways, exclusive of State highways in 179 towns.

The engineering and clerical staff of the Department was as follows:—

Chief Engineer, ARTHUR W. DEAN.

Highway Engineer (Projects), FRANKLIN C. PILLSBURY.

Highway Engineer (Construction), RAYMOND W. COBURN.

Highway Engineer (Maintenance), GEORGE H. DELANO.

Bridge Engineer, GEORGE E. HARKNESS.

District Highway Engineers:—

District No. 1, GEORGE A. CURTIS, — Berkshire County and the towns of Worthington, Middlefield and Huntington in Hampshire County, and the towns of Chester, Montgomery, Russell, Blandford and Tolland in Hampden County.

District No. 2 H. D. PHILLIPS, — Franklin, Hampshire and Hampden Counties, with the following exceptions: three towns in Hampshire County included in District No. 1 and ten towns in Hampden County included in Districts Nos. 1 and 3.

District No. 3, JOHN A. JOHNSTON, — Worcester County and the towns of Brimfield, Holland, Monson, Palmer and Wales in Hampden County.

District No. 4, F. D. SABIN, — Middlesex County.

District No. 5, JAMES E. LAWRENCE, — Essex and Suffolk Counties.

District No. 6, H. O. PARKER, — Norfolk and Bristol Counties.

District No. 7, H. C. HOLDEN, — Plymouth, Barnstable, Dukes and Nantucket Counties.

District Waterways Engineer, for Boston Harbor, — JOHN N. FERGUSON.

District Waterways Engineer, for harbors and waterways outside Boston Harbor, — FRANCIS L. SELLEW.

Secretary, MARY A. RILEY.

Financial Secretary, FRED FAIR.

Registry of Motor Vehicles

Registrar, MORGAN T. RYAN.

Deputy Registrar, ANTHONY A. BONZAGNI.

Assistant to the Registrar of Motor Vehicles, ALFRED W. DEVINE.

Chief Administrative Clerk, CHARLES R. GILLEY.

Chief Inspector of Motor Vehicles, ALBERT S. OLSSON.

A detailed report of the activities of the Department for the year is presented herewith.

FRANK E. LYMAN,

December 1, 1933.

Commissioner of Public Works.

SPECIAL REPORTS TO THE LEGISLATURE

The Department was authorized and directed by the Legislature to make certain investigations, and the reports thereon were made as follows:—

Advisability of further dredging Lynn Harbor and Saugus River and of widening draws in bridges over said river. Report made Dec. 5, 1932, by the Department of Public Works, under chapter 27, Resolves of 1932. (H. 2 of 1933).

Traffic conditions on Fall River and New Bedford highway at Westport Factory. Report made Dec. 2, 1932, by the Department of Public Works, under chapter 25, Resolves of 1932. (H. 3 of 1933).

Abolition of the grade crossing at Lincoln Square in Worcester. Joint report made Dec. 2, 1932, by the Department of Public Works and the

Department of Public Utilities, under chapter 37, Resolves of 1932. (H. 153 of 1933).

Public access to Lake George or Wales Pond in the town of Wales. Report made Dec. 20, 1932, by the Department of Public Works and the Attorney General, jointly, under chapter 453, Acts of 1923. (H. 179 of 1933).

Construction of a new high level bridge over the Weymouth Fore River between the city of Quincy and the town of Weymouth. Report made Dec. 2, 1932, by the Department of Public Works, under chapter 32, Resolves of 1932. (S. 4 of 1933).

Plans for the construction of a comfort station and the laying out of a parking area for motor vehicles near the entrance to the Wachusett Dam in the town of Clinton. Joint report made Dec. 7, 1932, by the Metropolitan District Commission and the Department of Public Works, under chapter 33, Resolves of 1932. (S. 6 of 1933).

Advisability of providing for scientific surveys of the natural resources of the Commonwealth. Report made Dec. 6, 1932, by the Department of Public Works, under chapter 138, Acts of 1932. (S. 8 of 1933).

RECOMMENDATIONS FOR LEGISLATION

The Commissioner of Public Works presented to the State Secretary on Dec. 4, 1933, as required by law that part of the current annual report which contains recommendations or suggestions for legislative action as follows:—

1. The Department recommends legislation to correct bearings of certain harbor lines on the southerly side of Charles River at the Charlestown Bridge in the city of Boston, given in section one, chapter two hundred and thirty-nine, Acts of nineteen hundred and thirty.

2. A portion of the United States Pierhead and Bulkhead line on the easterly side of New Bedford Harbor has been revised by the War Department. Inasmuch as the State harbor line elsewhere coincides with the United States lines, the Department recommends legislation to make the slight changes necessary for the State harbor line to conform to the Federal harbor lines.

3. At the present time the Department of Public Works has limited authority only in regard to the regulation of speed of vehicles on highways. For some time it has been felt that no adequate or satisfactory solution of the problem of speed control has been discovered. The Department asks authority to experiment on various rules and devices on certain highways to determine whether or not a satisfactory solution of the speed problem can be reached by carrying out at the same time both scientific studies and practical tests of various ideas. It also requests authority for a limited period to establish from time to time such rules and regulations as may be necessary to carry out these plans.

APPROPRIATIONS

Chapter 89, Acts of 1933, making appropriations for the employment of additional persons as a measure of relief during the present unemployment emergency, is, in part, as follows:—

Service of the Department of Public Works

Item

- C. For removing abandoned hulks or wrecks lying along the waterfront of Boston Harbor, a sum not exceeding fifty thousand dollars \$50,000 00

Chapter 174, Acts of 1933, making appropriations for the maintenance of departments, boards, commissions, institutions and certain activities of the Commonwealth etc., is, in part, as follows:—

Item

Requirements for Extinguishing the State Debt

209. For sinking fund requirements and for certain serial bonds maturing during the present year, the sum of one million six hundred seventy-one thousand three hundred ninety-nine dollars and fifty cents, payable from the following accounts and funds in the following amounts:—from the surplus of sinking fund revenue, four hundred twenty thousand dollars; from the Highway Fund, two hundred four thousand six hundred forty-nine dollars and fifty cents; and the remainder from the General Fund \$1,671,399 50
- 209a. To meet one-fourth of the expenditures authorized by sections one and two of chapter one hundred and twenty-two of the acts of nineteen hundred and thirty-one, and already in the main incurred, which is the proportionate part intended to be ultimately met by the Commonwealth during the current fiscal year, thereby reducing by the sum hereby appropriated the amount that may be borrowed under section three of said chapter, without otherwise affecting the authority to borrow under said section three the remainder of the amount authorized to be borrowed thereunder, the sum of two million one hundred and twenty-five thousand dollars, the same to be paid from the Highway Fund 2,125,000 00

Interest on the Public Debt

210. For the payment of interest on the direct debt of the commonwealth, a sum not exceeding eight hundred sixty-nine thousand dollars, of which sum two hundred thirty-nine thousand dollars shall be paid from the Highway Fund 869,000 00

*Service of the Department of Banking and Insurance**Division of Insurance:*

298. For other personal services of the division, including expenses of the board of appeal and certain other costs of supervising motor vehicle liability insurance, a sum not exceeding one hundred eighty-two thousand one hundred and eighty dollars, of which sum not more than thirty-five thousand dollars may be charged to the Highway Fund 182,180 00

*Service of the Department of Corporations and Taxation**Corporation and Taxation Division:*

305. For the salaries of certain positions filled by the commissioner, with the approval of the governor and council, and for additional clerical and other assistance, a sum not exceeding two hundred twenty thousand and sixty dollars, of which sum not more than fifty thousand dollars may be charged to the Highway Fund to cover the estimated cost of collection of the gasoline tax, so called 220,060 00

Service of the Department of Public Safety
Division of State Police:

550.	For the salaries of officers, including detectives, a sum not exceeding four hundred seven thousand six hundred dollars, of which sum not more than one hundred and forty thousand dollars may be charged to the Highway Fund	407,600 00
552.	For other necessary expenses of the uniformed division, including traveling expenses of detectives, a sum not exceeding three hundred fifty thousand dollars, of which sum not more than one hundred fifty-six thousand nine hundred dollars may be charged to the Highway Fund	350,000 00

Service of the Department of Public Works
The appropriations made in the following three items are to be paid two thirds from the Highway Fund and one third from the Port of Boston receipts:

570.	For the salaries of the commissioner and the associate commissioners, a sum not exceeding eighteen thousand four hundred and sixty dollars	18,460 00
571.	For personal services of clerks and assistants to the commissioner, a sum not exceeding eighty-seven hundred and fifty dollars	8,750 00
572.	For traveling expenses of the commissioners, a sum not exceeding seventeen hundred and forty dollars	1,740 00
Total		\$28,950 00

Functions of the department relating to highways (the following appropriations, except as otherwise provided, are made from the Highway Fund):

573.	For the personal services of the chief engineer, engineers and office assistants, including certain clerks and stenographers, a sum not exceeding eighty-nine thousand three hundred and twenty dollars	89,320 00
574.	For services other than personal, including printing pamphlet of laws and the annual report, and necessary office supplies and equipment, a sum not exceeding ten thousand three hundred dollars	10,300 00
575.	For the suppression of gypsy and brown tail moths on state highways, a sum not exceeding twelve thousand dollars	12,000 00
576.	For the construction and repair of town and county ways, a sum not exceeding two million six hundred thousand dollars	2,600,000 00
577.	For aiding towns in the repair and improvement of public ways, a sum not exceeding nine hundred ninety thousand dollars	990,000 00
578.	For the maintenance and repair of state highways, including care of snow on highways, expenses of traffic signs and lights, and payment of damages caused by defects in state highways, with the approval of the attorney general; for care and repair of road-building machinery; and for the	

Item

	purchase and improvement of a nursery for road-side planting, a sum not exceeding two million seven hundred ten thousand dollars	2,710,000 00
578a.	For the maintenance and operation of the new public works building, a sum not exceeding forty thousand dollars	40,000 00
579.	For the purpose of enabling the department of public works to secure federal aid for the construction of highways, a sum not exceeding five hundred twenty-five thousand dollars, and in addition there is hereby transferred the sum of seven hundred twenty-five thousand dollars from the appropriation previously made for the elimination of grade crossings	\$525,000 00
580	For administering the law relative to advertising signs near highways, a sum not exceeding fourteen thousand seven hundred and twenty dollars, to be paid from the General Fund	14,720 00
	Registration of Motor Vehicles:	
581	For personal services, a sum not exceeding nine hundred thirty thousand two hundred dollars, of which sum ten thousand dollars may be charged to the General Fund, and the remainder shall be paid from the Highway Fund	930,200 00
582	For services other than personal, including traveling expenses, purchase of necessary supplies and materials, including cartage and storage of the same, and for work incidental to the registration and licensing of owners and operators of motor vehicles, a sum not exceeding five hundred forty-three thousand five hundred and fifty dollars, to be paid from the Highway Fund	543,550 00
583	For printing and other expenses necessary in connection with publicity for certain safety work, a sum not exceeding one thousand dollars, to be paid from the Highway Fund	1,000 00
	Specials:	
585	For certain highway improvements in the city of Revere, as authorized by chapter four hundred and forty-five of the acts of nineteen hundred and thirty-one, as amended by chapter two hundred and fifty-eight of the acts of nineteen hundred and thirty-two, a sum not exceeding five hundred and fifty thousand dollars, to be paid from the Highway Fund and to be in addition to the unexpended balance of any appropriation heretofore made for the purpose and to be in anticipation of a further appropriation in nineteen hundred and thirty-three sufficient to complete the work authorized by said chapters. The department of public works is hereby authorized to make contracts and incur expenses within the total sum of one million three hundred fifty-five thousand dollars authorized by said chapters	\$550,000 00
586	There is hereby added to the sum appropriated in nineteen hundred and thirty-two for land damages and other expenses incidental to the laying out of a state highway extending from Alewife	

Item

	Brook parkway in the city of Cambridge through said city and certain towns, including Concord, as authorized by chapter three hundred and two of the acts of nineteen hundred and thirty-two, a sum not exceeding one hundred thirty thousand dollars, to be paid from the Highway Fund	130,000 00
	Functions of the department relating to waterways and public lands:	
587	For personal services of the chief engineer and assistants, a sum not exceeding fifty thousand six hundred dollars	50,600 00
588	For services other than personal, including printing pamphlet of laws and the annual report, and for necessary office and engineering supplies and equipment, a sum not exceeding seventeen hundred dollars	1,700 00
589	For the care and maintenance of the province lands and of the lands acquired and structures erected by the Provincetown tercentenary commission, a sum not exceeding forty-seven hundred dollars	4,700 00
590	For the maintenance of structures, and for repairing damages along the coast line or river banks of the commonwealth, and for the removal of wrecks and other obstructions from tide waters and great ponds, a sum not exceeding twenty-two thousand five hundred dollars	22,500 00
591	For the improvement, development and protection of rivers and harbors, tide waters and foreshores within the commonwealth, as authorized by section eleven of chapter ninety-one of the General Laws, as appearing in the Tercentenary Edition thereof, and of great ponds, a sum not exceeding twenty-five thousand dollars, and any unexpended balance of the appropriation remaining at the end of the current fiscal year may be expended in the succeeding fiscal year for the same purposes; provided, that all expenditures made for the protection of shores shall be upon condition that at least fifty per cent of the cost is covered by contributions from municipalities or other organizations and individuals, and that in the case of dredging channels for harbor improvements at least twenty-five per cent of the cost shall be so covered; and further provided that the department of public works may expend a sum not exceeding eight thousand dollars of the total appropriation for dredging near the state pier at New Bedford without any restriction as to contributions	25,000 00
592	For re-establishing and permanently marking certain triangulation points and sections, as required by order of the land court in accordance with section thirty-three of chapter ninety-one of the General Laws, as appearing in the Tercentenary Edition thereof, a sum not exceeding one thousand dollars	1,000 00
593	For expenses of surveying certain town boundaries, by the department of public works, a sum not	

Item

	exceeding five hundred dollars	500 00
594	For the operation and maintenance of the New Bedford state pier, a sum not exceeding ten thousand dollars	10,000 00
595	For the compensation of dumping inspectors, a sum not exceeding one thousand dollars	1,000 00
596	For continuing the work in gauging the flow of water in the streams of the commonwealth, a sum not exceeding four thousand dollars	4,000 00
597	For the maintenance and repair of certain property in the town of Plymouth, a sum not exceeding thirty-eight hundred dollars	3,800 00
	The unexpended balance of the appropriation made by item six hundred and thirty-eight of chapter two hundred and forty-five of the acts of nineteen hundred and thirty-one for certain work in the Taunton river, authorized by chapter four hundred and five of the acts of nineteen hundred and thirty, is hereby reappropriated.	
598	For the operation and maintenance of the Cape Cod Canal pier, a sum not exceeding thirty-five hundred dollars	3,500 00
598a	For the erection of buildings on the Cape Cod Canal pier, a sum not exceeding twelve thousand five hundred dollars	12,500 00
	Functions of the department relating to Port of Boston (the following items are to be paid from the Port of Boston receipts):	
599	For the supervision and operation of commonwealth pier five, including the salaries or other compensation of employees, and for the repair and replacement of equipment and other property, a sum not exceeding one hundred nine thousand six hundred dollars	\$109,600 00
600	For the maintenance of pier one, at East Boston, a sum not exceeding seventy-seven hundred and eighty dollars	7,780 00
601	For the maintenance and improvement of commonwealth property under the control of the department in connection with its functions relating to waterways and public lands, a sum not exceeding ninety-eight thousand two hundred dollars	98,200 00
602	For dredging channels and filling flats, a sum not exceeding fifty-five thousand dollars, the same to be in addition to any unexpended balance of the appropriation made for the purpose in the previous year	55,000 00

MISCELLANEOUS

The following items are to be paid from the Highway Fund, with the approval of the Metropolitan District Commission:

622	For maintenance of boulevards and parkways, a sum not exceeding five hundred forty-six thousand and forty dollars	546,040 00
623	For resurfacing of boulevards and parkways, a sum not exceeding one hundred thousand dollars	100,000 00
624	For maintenance of Wellington bridge, a sum not	

Item

exceeding forty-nine hundred and fifty-four dollars

4,954 00

For certain other aid:

- 630 For the compensation of certain public employees for injuries sustained in the course of their employment, as provided by section sixty-nine of chapter one hundred and fifty-two of the General Laws, as appearing in the Tercentenary Edition thereof, a sum not exceeding sixty thousand dollars, of which sum not more than twenty thousand dollars may be charged to the Highway Fund

60,000 00

DEFICIENCIES

For deficiencies in certain appropriations of previous years, in certain items, as follows:

Department of Public Works

Functions of the department relating to highways:

- For administering the law relative to advertising signs near highways, the sum of fifteen dollars and eighty-two cents, to be paid from the General Fund

15 82

- For the construction and repair of town and county ways, the sum of sixty dollars and eighty-one cents, to be paid from the Highway Fund

60 81

- For the maintenance and repair of state highways, including care of snow on highways, expenses of traffic signs and lights, and payment of damages caused by defects in state highways, with the approval of the attorney general; for care and repair of road-building machinery; and for the purchase and improvement of a nursery for roadside planting, the sum of forty dollars and sixty-four cents, to be paid from the Highway Fund . .

40 64

- For the purpose of enabling the department of public works to secure federal aid for the construction of highways, the sum of three dollars, to be paid from the Highway Fund

3 00

Registration of Motor Vehicles:

- For services other than personal, including traveling expenses, purchase of necessary supplies and materials, including cartage and storage of the same, and for work incidental to the registration and licensing of owners and operators of motor vehicles, the sum of three dollars and eight cents, to be paid from the Highway Fund

3 08

Functions of the department relating to waterways and public lands:

- For the supervision and operation of commonwealth pier five, including the salaries or other compensation of employees, and for the repair and replacement of equipment and other property, the sum of seventy-eight dollars and ninety-five cents, to be paid from the Port of Boston receipts . .

78 95

- For dredging channels and filling flats, the sum of six hundred seventy-seven dollars and two cents, to be paid from the Port of Boston receipts .

\$677 02

SECTION 6. No payment shall be made or obligation incurred under authority of any special appropriation made by this act for construction of public buildings or other improvements at state institutions until plans and specifications have been approved by the governor, unless otherwise provided by such rules and regulations as the governor may make.

SECTION 8. No expenses incurred on and after the date of the passage of this act for mid-day meals by state employees, other than those who receive as part of their compensation a non-cash allowance in the form of full or complete boarding and housing, and those employees who are stationed beyond commuting distance from their homes for a period of more than twenty-four hours, shall be allowed by the commonwealth.

Chapter 296, Acts of 1933, making an appropriation for adjusting the salaries of certain employees of the Commonwealth, follows:—

SECTION 1. The sum of one hundred and fifteen thousand dollars, of which not more than thirty thousand dollars shall be paid from the Highway Fund, not more than eight thousand dollars from the several funds of the metropolitan district commission, and the remainder from the General Fund, is hereby appropriated to meet the additional payments required for paying the salaries of certain employees of the commonwealth to be increased as of June first in the current year as recommended by the governor in a message to the general court dated May twenty-fifth, nineteen hundred and thirty-three. The sum appropriated by this act shall be apportioned by the comptroller of the commonwealth to the proper appropriations made during the current year in such amounts as may be certified by the division of personnel and standardization of the commission on administration and finance to be necessary to carry out the provisions of this act.

SECTION 2. This act shall take effect upon its passage.

Chapter 371, Acts of 1933, in addition to the general appropriation act making appropriations to supplement certain items contained therein, and for certain new activities and projects, is, in part, as follows:—

SECTION 1. To provide for supplementing certain items in the general appropriation act, and for certain new activities and projects, the sums set forth in section two, for the particular purposes and subject to the conditions stated therein, are hereby appropriated from the general fund or ordinary revenue of the commonwealth, unless some other source of revenue is expressed, subject to the provisions of law regulating the disbursement of public funds and the approval thereof.

SECTION 2.

Item

Service of the Department of Public Works

Functions of the department relating to highways:

- | | | |
|------|--|-------------|
| 578b | For completing the public works office building and for the settlement of certain claims in connection with the construction of said building, a sum not exceeding eighty-five thousand dollars, the same to be in addition to any amount heretofore appropriated for the purposes and to be paid from the Highway Fund. Any sums awarded by the department of public works on account of said claims shall be subject to the approval of the attorney general | \$85,000 00 |
| 579 | In addition to the sum heretofore appropriated by Item 579 of chapter one hundred and seventy-four of the acts of the current year, there is hereby added the further sum of one million eight hundred and thirty thousand dollars, to be paid from the High- | |

Item

	way Fund, which, together with the appropriation made by Item 585 of said chapter one hundred and seventy-four, may be used by the department of public works in supplementing and expediting the receiving of the benefits provided by the National Industrial Recovery Act or of any other federal money available for the construction of any highway projects, including bridges, authorized by special legislation, or otherwise, and of certain highway improvements in the city of Revere as provided in said Item 585 as the department may find necessary . . .	1,830,000 00
573a	For personal services of the superintendent, elevator operators, watchmen, mechanical handymen and porters employed at the new public works building a sum not exceeding five thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose, and to be paid from the Highway Fund	5,000 00
580	For administering the law relative to advertising signs near highways, a sum not exceeding sixty-five hundred dollars, to be paid from the General Fund and to be in addition to any amount heretofore appropriated for the purpose . . .	6,500 00
585	(This item combined with Item 579.)	
585a	For expenses of certain highway improvements, as authorized by chapter three hundred and fifty-six of the acts of the current year, a sum not exceeding forty thousand dollars, to be paid from the Highway Fund and to be in addition to any amount heretofore appropriated for the purpose	40,000 00
	Functions of the department relating to waterways and public lands:	
591a	For certain shore protection in the town of Nahant, a sum not exceeding fifteen thousand dollars, which sum is hereby made available at such time as the town of Nahant pays into the treasury of the commonwealth an equal sum of fifteen thousand dollars	15,000 00
591b	For the improvement of the dike across the mouth of the Herring river in the town of Wellfleet, as authorized by chapter two hundred and seventeen of the acts of the current year, a sum not exceeding ten thousand dollars	10,000 00
591c	For the extension of certain sea walls in the town of Scituate, as authorized by chapter two hundred and eighty-six of the acts of the current year, a sum not exceeding thirty-seven thousand five hundred dollars	37,500 00
591d	For placing riprap for the protection of the shore at Stony Beach in the town of Hull, as authorized by chapter three hundred and thirty of the acts of the current year, a sum not exceeding eight thousand dollars	8,000 00
	Functions of the department relating to Port of Boston (the following items are to be paid from the Port of Boston receipts):	

Item		
602	For dredging channels and filling flats, a sum not exceeding twenty-five thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose	25,000 00
C 1933, ch. 89	For removing abandoned hulks or wrecks lying along the waterfront of Boston harbor, a sum not exceeding twenty-five thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose	25,000 00

Miscellaneous

The following item is to be paid from the Highway Fund, with the approval of the Metropolitan District Commission:

623	For resurfacing of boulevards and parkways, a sum not exceeding fifty thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose, provided that human labor be used as far as may be possible	50,000 00
	Claims:	
636a	For the payment of claims authorized by certain resolves of the current year, a sum not exceeding fifty-six thousand eight hundred eleven dollars and eighteen cents, of which sum one hundred sixty dollars and forty-one cents shall be charged to the Highway Fund. Said payments shall be certified by the comptroller of the commonwealth only upon the filing of satisfactory releases or other evidence that the payments are accepted in full compensation on the part of the commonwealth in respect thereto	56,811 18

DEFICIENCIES

For deficiencies in certain appropriations of previous years, in certain items, as follows:

Department of Public Works

For	the maintenance and repair of state highways, including care of snow on highways, expenses of traffic signs and lights, and payment of damages caused by defects in state highways, with the approval of the attorney general; for care and repair of road-building machinery; and for the purchase and improvement of a nursery for roadside planting, the sum of three hundred forty-seven dollars and eighty-four cents, to be paid from the Highway Fund	347 84
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SECTION 3. The following amendments and transfers are hereby authorized in appropriations previously made:

- Item 579 of chapter one hundred and seventy-four of the acts of the present year is hereby amended by striking out the word "twenty-five" in line six.
- Item 585 of chapter one hundred and seventy-four of the acts of the present year is hereby amended by striking out the word "thirty-three" in lines eleven and twelve and inserting in place thereof the word "thirty-four".

Item

Department of Public Works

The treasurer and receiver-general is hereby directed to assess upon the municipalities of the metropolitan parks district, including the city of Revere, in proportion to the respective taxable valuations of the property of said municipalities as defined by section fifty-nine of chapter ninety-two of the General Laws, from time to time as certified by the department of public works, such sums as represent that portion of the cost of certain work authorized by section one of chapter four hundred and forty-five of the acts of nineteen hundred and thirty-one, as amended by chapter two hundred and fifty-eight of the acts of nineteen hundred and thirty-two, which, under section six of said chapter four hundred and forty-five, as so amended, are to be paid by said municipalities, and such sums as in the aggregate amount to one third of the cost of the work authorized by section three of said chapter four hundred and forty-five, as amended.

FINANCIAL STATEMENTS

Summary of Income, Year Ending November 30, 1933

HIGHWAY FUND

*Section 34, Chapter 90, General Laws, as amended**(See Chapter 288, Acts of 1925)*

Fees (for registration of motor vehicles, licenses to operate, etc.) and fines (penalties, Sundry Courts), gross receipts . . .	\$6,317,240.63
Gasoline tax, gross	16,681,710.59
Contributions for highways and assessments (G. L. Ch. 81)	506,910.10
Appropriation balances of previous years reverting	240,541.01
Contributions and refunds	104,846.11
Sale of old materials and buildings	5,366.68
Reimbursement for repairs to guard rail and other property	7,209.67
Rent of property (Nursery)	230.00
Rent of space, Public Works Building	739.20
Slot Machine Receipts	52.90
	<hr/> \$23,864,846 89

PORT OF BOSTON FUND

(Chapter 91, General Laws)

Rents (leases and permits)	161,768 84
Reimbursement for services (inspection of dumping dredged material in Boston Harbor)	2,729 90
Use of Commonwealth Pier No. 5 (wharfage, dockage, rentals, etc.)	146,939 35
Use of Commonwealth Pier No. 1 (rentals, etc.)	1,513 23
Revenue from permits for dumping dredged material at receiving basins	4,160 19
License charges (for tidewater displacement and occupying Commonwealth tide lands (Boston Harbor)	7,221 02
Telephone pay station receipts	100 40
Sales of land	40,745 00
Sales of Boston Harbor maps	1 50
Sundries	287 87
Appropriation balances of previous years reverting	3,951 63
	<hr/> \$ 369,418 93

DEPARTMENT INCOME

(Ordinary Revenue)

Sales (specifications and plans for contracts)	430 00
Interest on Bank accounts	248 01
Aircraft Licenses	492 00
Reimbursement for services (inspection of dumping dredged material outside of Boston Harbor, ch. 196, Acts of 1925)	297 37
License charges (for tidewater displacement and occupying Commonwealth tide lands) outside of Boston Harbor	2,393 65
Certified copying charges	93 00
Sale of Atlas sheets and miscellaneous plans	865 10

Use of Province Lands (S. 25, C. 91, G. L.)	167 05	
Permits for advertising signs	13,231 92	
Use of New Bedford State Pier	19,248 84	
Use of Plymouth State Pier	200 00	
Use of Cape Cod Canal State Pier	660 00	
Reimbursement a/c removal of wrecks . .	881 98	
		\$39,208 92

IMPROVEMENT OF RIVERS AND HARBORS TRUST
(Sections 11, 29, chapter 91, General Laws)

Contributions from towns, individuals or others	\$30,050 00
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HIGHWAY TRUST

Section 30, Chapter 81, G. L.

Federal Aid (reimbursement from United States Government)	\$3,375,466 67
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FUNDS CONTRIBUTED FOR WORK UNDER SPECIAL ACTS

Contribution by City of Quincy (Chap. 222, Acts of 1932)	\$3,000 00	
Contribution by Town of Winthrop (Ch. 256, Acts of 1932)	25,000 00	
Contribution by Town of Nahant (Ch. 371, Acts of 1933)	15,000 00	
Contribution by County of Plymouth (Ch. 286, Acts of 1933)	18,750 00	
Contribution by Town of Scituate (Ch. 286, Acts of 1933)	18,750 00	
		\$80,500 00
Total		\$27,759 491 41

EXPENDITURES

The expenditures by the Department under the provisions of General Laws and other acts and the appropriation acts, chapters 174 and 371, acts of 1933, during the fiscal year ending November 30, 1933, were as follows:

ADMINISTRATIVE

Commissioners Associate Commissioners, Personal services of clerks, stenographers, and commissioners' travel	\$27,390 36	
Public Works Department Building, land and services	490,341 22	
Public Works Building, equipment	37,880 49	
Public Works Building, operation and maintenance	35,881 42	
		\$591,493 49

RELATING TO HIGHWAYS

Personal Services—Chief Engineer, Clerks and stenographers		\$86,252 88
State Highways—Construction (Chapter 81, G. L.) general contract work	\$3,662,306 39	
Engineering (Supervision)	654,470 16	
Rent of offices, Comm. Pier 5	3,600 00	
Highway Testing Laboratory	15,952 57	
Hingham—Hull (Chapter 118, Acts of 1931)	36 90	
Lynn—Revere, N.I.R.A.	669 74	
		4,337,035 76

Maintenance and Repair of State Highways

(Chapter 81, General Laws)

Reconstruction of State Highways

General contract work	1,571,900 32
Engineering, supervision on reconstruction	380,639 56

1,952,539 88
Ordinary Maintenance

General Maintenance	1,393,141 37
Engineering (Supervision)	309,006 47
Highway Testing Laboratory	9,038 22
Care and repair of road building machinery	87,405 08
Removal of snow from highways	506,069 26
Roadplanting and development	29,485 17
Traffic engineering, signs and traffic count	153,971 48
Paint manufacture	9,265 37
Newburyport Bridge, Salisbury-Newburyport, over Merrimack River, maintenance and operation	11,350 43
Brightman St. Bridge, Fall River-Somerset, maintenance and operation	16,703 60
New Bedford-Fairhaven Bridge, Acushnet River (Chapter 426, Acts of 1930)	14,486 01
Route and detour maps	1,154 15
Rent for offices at Commonwealth Pier 5	3,600 00
Construction of D Street Garage	40,802 91
Heating plant at D Street	7,093 80

2,592,573 32
Construction and Repair of Town and County Ways

(Section 34, Chapter 90, General Laws)

State's expenditures for work contracted for in cities and towns	1,597,721 20
Engineering and expense (supervision)	369,207 81
Rent of offices, Commonwealth Pier 5	1,800 00

1,968,729 01
Aiding Towns in the Repair and Improvement of Public Ways (Section 26, Chapter 81, General Laws, as amended)

State's expenditures for work contracted for in cities and towns	886,239 60
Engineering and expense (supervision)	78,273.55

964,513 15
Special Acts:

Expenditures under the provisions of Chapter 122, Acts of 1931	870,259 40
<i>Incidentals</i> (printing, postage, supplies, etc.)	7,845 26
<i>Advertising signs regulation of personal services and expenses</i>	21,092 36
<i>Highways in Malden, Braintree, Weymouth and Hingham</i>	
Hingham, Braintree and Weymouth	3,168 90
<i>Highways in Metropolitan District (Chapter 420, Acts of 1930, as amended by Chapter 450, Acts of 1931)</i>	
Section 1. Canton, Dedham, Wellesley, etc.	136,199 51
Section 2. Canterbury Street, Boston	28,872 98

Section 3. Land taking-Neponset River, Milton	55,091 43	
Section 4. West Roxbury - Brookline Parkway	86,811 91	
		306,975 83
<i>Abolition of Grade Crossings</i> (Chapter 417, Acts of 1930)		26,037 86
<i>Plans for Weymouth Fore River Bridge</i> (Chapter 32, Resolves of 1932)		8,030 67
<i>Construction of Saugus River Bridge</i> (Chap- ter 241, Acts of 1932)		534 57
<i>Expenditures under Chapter 258, Acts of</i> 1932.		
Section 1. State Highway, Revere	366,967 70	
Section 2. Boston-Revere	177,858 88	
Section 3. Ocean Ave., Revere	202,183 89	
		747,010 47
<i>Alewife Brook Parkway Extension</i> (Chapter 302, Acts of 1932)		68,468 57
<i>Suppression of gypsy and brown-tail moths</i> on State Highways in cities and towns		11,907 67
<i>Total Expenditures for Highways</i>		\$13,972,975 56

SUMMARY OF EXPENDITURES RELATING TO WATERWAYS

General Expenses	\$50,473 53
<i>Boston Harbor:</i>	
Maintenance and Operation, Commonwealth Pier No. 1, East Boston	6,731 57
Maintenance and Operation, Commonwealth Pier No. 5, South Boston	101,319 54
Maintenance of Property	50,355 69
Dredging and Filling	39,148 13
Streets, Piers and Railroads	49 00
Removal of Hulks (Chapter 89, Acts of 1933)	71,760 01
Quincy Bay (Chapter 222, Acts of 1932)	11,906 42
<i>Outside of Boston Harbor:</i>	
Improvement of Rivers and Harbors	113,184 57
Repairing damages to shore	24,467 08
New Bedford State Pier, operation and maintenance	5,420 89
New Bedford State Pier (Chapter 273, Acts of 1932)	713 91
Expenses of Province Lands	4,700 00
Expenses of Plymouth Property	3,407 07
Topographical survey	1,000 00
Stream Gauging	4,000 00
Surveying state and town boundaries	278 32
Compensation for services of dumping inspectors	115 12
Marshfield Shore Protection (Chapter 407, Acts of 1931)	16,434 84
Scituate Shore Protection (Chapter 424, Acts of 1931)	185 06
Scituate Shore Protection (Chapter 286, Acts of 1933)	45,532 14
Construction of Pier, Cape Cod Canal (Chapter 441, Acts of 1931)	87,065 25
Cape Cod Canal Pier, operation and maintenance	2,135 46
Geological Survey Trust Fund	2,709 90
Nahant shore protection	2,093 04
Winthrop shore protection (Chapter 256, Acts of 1932)	111,279 49
Herring River, Wellfleet (Chapter 217, Acts of 1933)	4,685 12

 \$761,151 15

EXPENDITURES RELATING TO THE REGISTRY OF MOTOR VEHICLES

The cost of running the Registry of Motor Vehicles . . . \$1,434,382 44

SUMMARY OF EXPENDITURES BY DEPARTMENT
FOR YEAR ENDING NOVEMBER 30, 1933

Administrative	\$591,493 49
Relating to Highways	13,972,975 56
Registry of Motor Vehicles	1,434,382 44
Relating to Waterways	761,151 15
Total	<hr/> \$16,760,002 64

COOPERATIVE WORK — SUPERVISION OF EXPENDITURES

The Department has supervised the expenditures during the year by cities, towns and counties, under chapter 81, General Laws, as amended, of approximately \$2,265,742.12 for cooperative work, in repairing, maintaining and improving certain public ways, and for other road work for which the towns and cities made contributions. All such work was carried out in conformity with contracts, specifications and plans approved by the Department.

RELATING TO HIGHWAYS

GENERAL STATEMENT

State Highways.—During the year ending November 30, 1933, the Department laid out new State highways amounting to 28.41 miles in 25 cities and towns. Under Chapter 81, General Laws, as amended by Chapter 427, Acts of 1931, 13.485 miles of State Highway were discontinued or abandoned. The total length of State Highways at the end of the year was 1824.051 miles.

Highways Constructed in 1933.—Construction has been completed on 44.366 miles of State highway, 163.220 miles of highway under the provisions of section 34, Chapter 90, General Laws, as amended, and 2.345 miles of highway under the provisions of Special Acts, making a total of 209.931 miles completed during the year.

Of the above highways completed this year, the classification according to type of pavement is as follows:

- 12.798 miles of Reinforced Cement Concrete
- 5.258 miles of Dual (reinf. conc. and bit. macadam).
- 69.897 miles of Bituminous Macadam.
- 18.065 miles of Bituminous Concrete.
- 55.944 miles of Bituminous Concrete (Mixed in Place).
- 0.246 miles of Waterbound Macadam (Bituminous Surf.).
- 26.032 miles of Gravel with Bituminous Treatment.
- 21.691 miles of Gravel.

Resurfacing, Reconstruction and Widening of State Highways.—During the year 0.758 miles of State highway were widened but not resurfaced, and 44.621 miles were resurfaced or reconstructed and widened. In addition to this work on which the surfacing has been completed, there are several miles of road in various stages of completion which are scheduled to be finished up next year.

The Resurfacing or Reconstruction of State Highways in 1933 was divided into types as follows:

- 5.219 miles of Reinforced Cement Concrete.
- 32.868 miles of Bituminous Macadam.
- 4.318 miles of Bituminous Concrete.
- 2.216 miles of Bituminous Concrete (Mixed in Place).

Surveys, Plans and Estimates.—During the year ending November 30, 1933, preliminary surveys, plans and estimates were made as follows:

For State Highway Construction.—Preliminary surveys in 8 cities and 16 towns, 41.582 miles; plans in 7 cities and 12 towns, 45.074 miles; preliminary estimates in 4 cities and 15 towns, 42.827 miles; lines and grades in 5 cities and 17 towns, 52.666 miles; and final surveys in 1 city and 19 towns, 42.441 miles.

For State Highway Reconstruction and Resurfacing.—Preliminary surveys in 8 cities and 52 towns, 112.241 miles; Plans in 7 cities and 49 towns, 95.028 miles; Preliminary estimates in 6 cities and 58 towns, 120.620 miles; lines and grades in 7 cities and 59 towns, 116.040 miles, and final surveys in 1 city and 25 towns, 46.810 miles.

Under Section 34, Chapter 90, General Laws, as amended.—Reconnaissance surveys in 10 towns, 17.384 miles; preliminary surveys in 9 cities and 155 towns, 182.740 miles; plans in 9 cities and 154 towns, 176.105 miles; preliminary estimates in 9 cities and 162 towns, 179.408 miles; lines and grades in 9 cities and 169 towns, 183.416 miles; and final surveys in 5 cities and 51 towns, 63.417 miles.

National Recovery Act.—Since the passage of the National Recovery Act, a large number of projects have been prepared, in addition to the projects authorized by this department. It is not the purpose of the following list to show the mileage of all the projects that have been worked up for the National Recovery Act, because some of the surveys, plans, and estimates had been made prior to the passage of the Act, or have been included elsewhere in the preceeding lists and would have been completed with funds of the Commonwealth, in normal times.

Preliminary plans in 3 cities and 22 towns, 54.470 miles; plans in 2 cities and 20 towns, 43.35 miles; estimates in 2 cities and 23 towns, 52.26 miles; lines and grades in 1 city and 3 towns, 3.19 miles.

Under the provisions of various acts and resolves, surveys, plans, estimates, lines and grades and final surveys were made as follows:

Chapter 24, Resolves of 1933; Section A, 18.00 miles of reconnaissance survey and plans in 3 cities and 9 towns, 29.76 miles of estimate in 3 cities and 9 towns. Section B, 5.38 miles of reconnaissance survey, plans, and estimates in 1 city and 1 town.

Chapter 14, Resolves of 1933:—29.73 miles of reconnaissance estimates in 1 city and 1 town.

Chapter 16, Resolves of 1933:—8.3 miles of reconnaissance estimates in 1 city and 1 town.

Chapter 302, Acts of 1932:—1.39 miles of reconnaissance survey and plans in 1 town.

Chapter 31, Resolves of 1933:—27.76 miles of reconnaissance estimates in 7 towns.

Chapter 23, Resolves of 1933:—25.00 miles of reconnaissance estimates in 4 cities and 7 towns.

Chapter 417, Acts of 1930:—1.10 miles of survey and plans in 1 town.

Construction Reconnaissance.—61 miles of survey and plans in 2 cities and 12 towns; 40 miles of estimate in 2 cities and 8 towns.

Reconstruction Reconnaissance.—3.72 miles of survey, plans and estimates in 1 city and 4 towns.

Precise levels have been made covering 422 miles in 34 towns; 40 bench mark disks have been set in 26 towns.

Permits.—There were 1701 permits issued during the year for opening or occupying State highways for various purposes.

Engineering Advice to Other Departments.—Advice to Department of Public Safety; 0.04 miles of survey in one town.

Advice to Department of Conservation; 1.00 mile of survey, plan and estimate in 1 town.

Engineering Advice to Municipal Authorities.—The Department furnished engineering advice without charge to 28 cities and towns in accordance with the provisions of Section 1, Chapter 81, General Laws.

Approval of Specifications.—The Department approved during the year, under the provisions of Section 7, Chapter 44, General Laws, as amended, specifications for the construction of roads in 7 towns and cities.

Approval of Bridge Plans.—The Department approved during the year, under the provisions of Chapter 313, Acts of 1923, plans for the construction of 5 bridges in 1 town and 3 cities.

Planting of Trees on State Highways.—During the past year, 1,224 trees were planted along roadsides making a total of 64,891 trees thus set out in the past twenty-nine years. In addition, there were planted throughout the State 707 shrubs, 402 vines, and 120 evergreens; also 376 small pines on bare slopes and ragged cuts.

PETITIONS, MEETINGS AND HEARINGS

In addition to the regular weekly meetings of the Department throughout the year, numerous hearings and conferences have been held, including the annual hearings in the several counties in the Commonwealth for the open discussion of questions relating to the public ways, as required by section 1, Chapter 81, General Laws; hearings on appeals from the action taken by the Registrar of Motor Vehicles in the suspension or revocation of certain licenses to operate motor vehicles in 86 cases; on an order prohibiting the use of North Adams Airport as a landing field; on an order permitting the use of the Framingham Airport as a landing field for commercial aircraft; on a special regulation for motor vehicles in Milton; on a petition for the relocation of street railway tracks in Revere; on the matter of outdoor advertising in five towns and cities; on the matter of an overpass across the location of the Boston & Maine Railroad in Revere; on the matter of traffic rules; on the matter of an investigation relative to bridge over Mystic River in the cities of Chelsea and Revere under the provisions of Chapter 36, Resolves of 1933; and on the matter of laying out State highways across railroad crossings in Auburn and Stoughton.

Petitions were received and contracts signed during the year as follows:

	Petitions	Contracts
State highways	27	29
Work under section 34, Chapter 90, General Laws, as amended		260
Work under section 26, Chapter 81, General Laws, as amended	179	178
Work under Special Acts		4
Micellaneous		10
Total	206	481

STATE HIGHWAYS

PETITIONS FOR STATE HIGHWAYS

General Laws, chapter 81, section 4, provides that —
“If county commissioners, aldermen or selectmen adjudge that public necessity and convenience require that the Commonwealth lay out and take charge of a new or existing way as a highway in whole or in part, in their county, city, or town, they may apply, by a written petition, to the division, requesting that said way be laid out and taken charge of by the Commonwealth.”

Petitions under the aforesaid section have been received during the year, as follows:—

SELECTMEN OF WEBSTER: — Road extending from a point on Oxford Road about 0.35 of a mile south of the dividing line between the towns of Oxford and Webster, at or near the property of Sarah Bragg Estate, southerly, over a new location, to a point on Oxford Road about 500

feet north of the crossing of the Boston & Albany Railroad. Received Dec. 8, 1932.

SELECTMEN OF YARMOUTH: — Road extending from a point on Main Street about 900 feet southwest of South Street, northeasterly, over a new location to the junction of Main and Bridge Streets. Received Dec. 12, 1932.

SELECTMEN OF DRACUT: — Road extending from the dividing line between the city of Lowell and the town of Dracut, locally known as Riverside, Pleasant and Arlington Streets, easterly to the State highway leading from Lowell to Methuen, known as Broadway. Received Dec. 13, 1932.

MAYOR AND BOARD OF STREET COMMISSIONERS OF BOSTON: — Road extending from Boardman Street, at the 1932 State highway layout, to Bennington Street, in part over a new location and in part over Pope Street. Received Dec. 22, 1932.

MAYOR AND CITY COUNCIL OF REVERE: — Road extending from the Revere Beach Parkway, at or near Stowers Court, to Broadway, at or near Squire Road. Received Jan. 26, 1933.

SELECTMEN OF OXFORD: — Road extending from the 1921 State highway layout to the 1916 State highway layout, about nine-tenths of a mile in length, locally known as Main Street. Received Feb. 6, 1933.

SELECTMEN OF GEORGETOWN: — Road extending from the dividing line between the towns of Boxford and Georgetown, locally known as Central, North and Pond Streets, to the dividing line between the towns of Georgetown and Groveland. Received Feb. 11, 1933.

SELECTMEN OF WEST NEWBURY: — Road extending from the dividing line between the towns of West Newbury and Groveland, locally known as Georgetown, Maple and Church Streets, to the dividing line between the towns of Merrimac and West Newbury.

SELECTMEN OF GROVELAND: — Road extending from the dividing line between the towns of Georgetown and Groveland to the dividing line between the towns of Groveland and West Newbury, locally known as Pond Street and J. B. Little Road. Received Feb. 25, 1933.

SELECTMEN OF UXBRIDGE: — Road extending from the Rhode Island State line to connect with a road leading to Providence, Rhode Island. Received Dec. 29, 1932.

SELECTMEN OF BROOKLINE: — Road extending from the dividing line between the town of Brookline and the city of Newton, easterly over Boylston Street to a point about 1,100 feet easterly of Jefferson Road. Received May 5, 1933.

SELECTMEN OF BLANDFORD: — Road extending from Blandford Village to the dividing line between the towns of Russell and Blandford, locally known as the Blandford and Russell Stage Road. Received May 15, 1933.

SELECTMEN OF BLANDFORD: — Road extending from Blandford Village to the dividing line between the towns of Blandford and Otis, locally known as the Main Road. Received May 29, 1933.

SELECTMEN OF HAMILTON: — Road locally known as Main Street, extending from Bridge Street to a point in front of the Congregational Church Grounds. Received June 1, 1933.

SELECTMEN OF BROOKLINE: — Road extending from a point on Boylston Street about 1100 feet easterly of Jefferson Road easterly over Boylston Street to Washington Street; thence along Washington Street to the dividing line between the town of Brookline and the city of Boston. Received July 20, 1933.

MAYOR AND BOARD OF ALDERMEN OF WOBURN: — Road on the main highway from Woburn to Wilmington between the 1912 and 1913 State highway layouts. Received Aug. 22, 1933.

SELECTMEN OF WEST SPRINGFIELD: — Road extending from the West

Springfield terminus of the North End Bridge northerly to the dividing line between the town of West Springfield and the city of Holyoke, locally known as Riverdale Street. Received Sept. 15, 1933.

SELECTMEN OF NEWBURY: — Road extending from the dividing line between the towns of Newbury and Georgetown to the dividing line between the towns of Newbury and West Newbury, locally known as Main Street. Also a road extending from the dividing line between the towns of Newbury and West Newbury, near the Rock Farm, so called, over Scotland Road and new location, to the Newburyport Turnpike, near the Little River Bridge. Received Oct. 17, 1933.

SELECTMEN OF GEORGETOWN: — Road extending from the dividing line between the towns of Georgetown and Boxford to the dividing line between the towns of Newbury and Georgetown, locally known as Andover and North Streets. Received Oct. 17, 1933.

SELECTMEN OF WEST NEWBURY: — Road extending from the dividing line between the towns of West Newbury and Newbury, on South Street near Great Rock, to the dividing line between the towns of Newbury and West Newbury on South Street on the road to Newburyport. Received Oct. 17, 1933.

SELECTMEN OF NORTH ATTLEBOROUGH: — Road extending from the dividing line between the towns of Plainville and North Attleborough to the junction of North Washington Street and the new By-Pass Road, locally known as Park Street. Received Oct. 21, 1933.

SELECTMEN OF BOURNE: — Road on new location, extending from the intersection of Bridge Street and the State highway north of the Cape Cod Canal, northeasterly and southeasterly to the northerly side of the Cape Cod Canal, at a point about 3,000 feet easterly from existing Bourne highway bridge across the canal; and beginning again at or near the southerly side of the canal, at a point about 3,000 feet easterly from said Bourne Bridge and extending southerly to a point on the 1932 layout of the State highway leading to Falmouth, about 8,000 feet southerly from Trading Post Corner. Received Oct. 23, 1933.

SELECTMEN OF BOURNE: — Road on new location extending from the dividing line between the towns of Bourne and Plymouth, at the State highway locally known as Plymouth Road, southerly, to the northerly side of the Cape Cod Canal, at a point about 350 feet southwesterly of the intersection of Hunter Brook Road with the State highway north of the Canal; and beginning again at or near the southerly side of the Canal, at a point about 1200 feet northeasterly from the intersection of Adams Street with the State highway south of the Canal, and extending southerly and easterly to a point on said State highway about 1,500 feet westerly of the dividing line between the towns of Bourne and Sandwich. Received Oct. 23, 1933.

SELECTMEN OF FAIRHAVEN: — Road extending from the intersection of Huttleston Avenue and Adams Street, southeasterly, in part over new location and in part over Spring and Washington Streets, to the end of the present State highway on Washington Street, near Alden Road. Received Oct. 30, 1933.

SELECTMEN OF OTIS: — Road extending from the dividing line between the towns of Otis and Blandford, to the State highway in Otis Village, locally known as Blandford Road and East Otis Road, also a road extending from the State highway in Otis Village to the dividing line between the towns of Otis and Monterey, locally known as Monterey Road and West Otis Road. Received Oct. 30, 1933.

SELECTMEN OF LINCOLN: — Road extending from the State highway, locally known as Lexington Road, at or near its intersection with Brooks Road, southwesterly, over new location, to the dividing line

between the towns of Lincoln and Concord, near Concord Avenue.
Received Oct. 27, 1933.

SELECTMEN OF EAST BRIDGEWATER:—Road extending from Bedford Street to the dividing line between the towns of East Bridgewater and Halifax, locally known as Whitman and Plymouth Streets. Received Nov. 7, 1933.

CONSTRUCTION AND RECONSTRUCTION OF STATE HIGHWAYS
(Chapter 81, General Laws, as amended)

The following contracts were entered into during the year for the construction and reconstruction of State highways, and work incidental thereto, in various municipalities:—

Middleborough

Dec. 27, 1932, contract made with Arute Bros., Incorporated, of Bridgewater, for constructing about 27,906 feet of State highway on Wareham Street; the surface consisting of bituminous macadam. The proposal amounted to \$56,452.50. Work completed July 15, 1933. Expenditure during 1933, \$53,669.16.

Yarmouth

Jan. 3, 1933, contract made with Sidney W. Lawrence, of Falmouth, for constructing and reconstructing about 26,805 feet of State highway on Main Street; the surface consisting of bituminous concrete. The proposal amounted to \$112,159.20. Work practically completed. Expenditure during 1933, \$109,273.66.

Cohasset-Scituate

Jan. 3, 1933, contract made with C. M. Callahan, Inc., of Boston, for constructing about 10,512 feet of State highway in Cohasset and about 20,300 feet of State highway in Scituate; the surface consisting of bituminous macadam. The proposal amounted to \$206,066.10. Work practically completed. Expenditure during 1933, \$167,233.01.

Pittsfield

Jan. 31, 1933, contract made with the Lee Construction Co., Inc., of Boston, for reconstructing a steel bridge with approaches on about 652 feet of State highway on Lebanon Road; the surface consisting of reinforced cement concrete. The proposal amounted to \$37,273.37. Work completed October 5, 1933. Expenditure during 1933, \$42,160.22.

Oxford-Webster

Feb. 21, 1933, contract made with the C. & R. Construction Company, of Boston, for constructing and reconstructing about 11,878 feet of State highway on Main Street in Oxford, and about 6,100 feet of State highway on Oxford Road in Webster, the surface consisting of bituminous macadam. The proposal amounted to \$125,452.90. Work completed November 7, 1933. Expenditure during 1933, \$132,186.29.

Yarmouth

June 6, 1933, contract made with John Burke, of Barnstable, for moving buildings of William W. Howard on the State highway in Yarmouth. The proposal amounted to \$1,173.00. Work completed October 27, 1933. Expenditure during 1933, \$1,312.89.

Wellesley

June 27, 1933, contract made with F. Pritchard & Son, Inc., of Watertown, for moving building of Jeannette Stanwood on the Boston-Worcester Turnpike. The proposal amounted to \$790.00. Work completed July 24, 1933. Expenditure during 1933, \$790.00.

Eastham

July 5, 1933, contract made with Sidney W. Lawrence, of Falmouth, for reconstructing about 2,050 feet of State highway; the surface consisting of bituminous concrete. The proposal amounted to \$9,326.50. Work completed September 20, 1933. Expenditure during 1933, \$11,827.48.

Newbury

Aug. 22, 1933, contract made with Ellsworth H. Lewis, of Andover, for reconstructing about 16,091 feet of State highway on High Street; the surface consisting of bituminous macadam. The proposal amounted to \$85,065.95. Work completed November 29, 1933. Expenditure during 1933, \$87,145.78.

Williamstown

Aug. 22, 1933, contract made with J. F. Fitzgerald Construction Company, of Boston, for reconstructing about 5,700 feet of State highway on Pownal Road, and about 950 feet of town highway on the same road in Williamstown; the surface consisting of bituminous macadam. The proposal amounted to \$103,975.63. Work about one-third completed. Expenditure during 1933, \$39,195.13.

Amesbury

Aug. 23, 1933, contract made with James E. Watkins Company, Inc., of Amesbury, for constructing about 4,199 feet of State highway on Main Street and new location; the surface consisting of bituminous macadam. The proposal amounted to \$41,743.60. Work about one-half completed. Expenditure during 1933, \$29,723.17.

Huntington

Aug. 23, 1933, contract made with The Lane Construction Corporation, of Meriden, Conn., for constructing about 28,113 feet of State highway on the Worthington Road; the surface consisting of bituminous macadam. The proposal amounted to \$129,155.40. Work about one-half completed. Expenditure during 1933, \$54,711.63.

Lanesborough-Pittsfield

Aug. 23, 1933, contract made with The Lane Construction Corporation, of Meriden, Conn., for reconstructing about 1,831 feet of State highway on North Adams Street in Lanesborough, and about 7724 feet of State highway on the same street in Pittsfield; the surface consisting of reinforced cement concrete. The proposal amounted to \$65,500.90. Work practically completed. Expenditure during 1933, \$60,957.77.

Williamstown

Sept. 5, 1933, contract made with the American Bridge Company, of Boston, for constructing a steel bridge superstructure over the Hoosic River and the Boston & Maine Railroad on Pownal Road. The proposal amounted to \$44,696.10. Work just commenced. No expenditure during 1933.

Wareham

Sept. 6, 1933, contract made with Sidney W. Lawrence, of Falmouth, for reconstructing about 8,556 feet of State highway on Agawam Road; the surface consisting of bituminous macadam. The proposal amounted to \$54,152.20. Work about one-third completed. Expenditure during 1933, \$17,664.55.

Brookline-Newton

Sept. 13, 1933, contract made with Coleman Bros., Incorporated, of Boston, for constructing about 1,655 feet of State highway on Boylston

Street in Newton, and about 4,100 feet of State highway on the same street in Brookline, and constructing a rigid frame concrete bridge with stone facing over Hammond Pond Parkway in Newton; the surface consisting of reinforced cement concrete on each side of a loam section but separated therefrom by bituminous concrete shoulders. The proposal amounted to \$208,363.00. Work about one-sixth completed. Expenditure during 1933, \$32,506.19.

Conway-Deerfield

Sept. 13, 1933, contract made with Kelleher Corporation, of Montague, for reconstruction about 4,579 feet of State highway on Conway Road in Deerfield, and about 5,630 feet of State highway on the same road in Conway; the surface consisting of bituminous macadam. The proposal amounted to \$206,730.30. Work about one-fourth completed. Expenditure during 1933, \$55,493.00.

Burlington-Winchester-Woburn

Oct. 11, 1933, contract made with M. McDonough Co., of Saugus, for reconstructing about 10,120 feet of State highway on Cambridge Street in Winchester, about 10,537 feet of State highway on the same road in Woburn, and about 19,850 feet of state highway on the same road in Burlington; the surface consisting of bituminous macadam. The proposal amounted to \$121,478.40. Work about one-sixth completed. Expenditure during 1933, \$53,328.19.

Boston-Revere

Oct. 18, 1933, contract made with The Boston Bridge Works, Incorporated, of Cambridge, for constructing two three-span deck steel stringer bridges with reinforced concrete floors in Boston, and a two-span deck plate girder bridge with reinforced concrete floor, and a three-span deck plate girder bridge with reinforced concrete floor, in Revere. The proposal amounted to \$70,379.88. Work just commenced. No expenditure during 1933.

Templeton

Nov. 1, 1933, contract made with The Lane Construction Corporation, of Meriden, Conn., for reconstructing about 15,852 feet of State highway on the Baldwinsville-Phillipston Road; the surface consisting of bituminous macadam. The proposal amounted to \$66,464.95. Work just commenced. Expenditure during 1933, \$952.00.

Ashby-Townsend

Nov. 14, 1933, contract made with G. Rotondi & Son, of Melrose, for reconstructing about 21,672 feet of State highway on Ashby Road and Willard Brook Road in Ashby and Townsend; the surface consisting of bituminous macadam. The proposal amounted to \$124,161.74. Work just commenced. Expenditure during 1933, \$1,258.00.

Chester

Nov. 14, 1933, contract made with the National Construction Company, of Everett, for reconstructing 1,624 feet of State highway on the Jacobs Ladder Road; the surface consisting of bituminous macadam. The proposal amounted to \$48,337.45. Work not yet commenced.

Boston-Revere

Nov. 14, 1933, contract made with A. G. Tomasello & Son, Inc., of Boston, for constructing about 6,540 feet of State highway in Boston, and about 5,790 feet of State highway in Revere; the surface consisting of sections of reinforced cement concrete, bituminous macadam, sheet asphalt, and plain cement concrete. The proposal amounted to \$441,168.25. Work not yet commenced.

Sterling-West Boylston

Nov. 14, 1933, contract made with Mario Pandolph Company, Inc., of Needham, for reconstructing about 26,076 feet of State highway on Worcester Street, Sterling Road and West Boylston Road in Sterling and West Boylston; the surface consisting of sections of bituminous macadam with reinforced cement concrete on each side, and bituminous macadam full width. The proposal amounted to \$191,178.50. Work just commenced. Expenditure during 1933, \$2,890.85.

Boston-Revere

Nov. 14, 1933, contract made with Anthony Baruffaldi, of Somerville, for constructing the substructures for two three-span deck steel stringer bridges with reinforced concrete floors in Boston, and the substructure for a three-span deck steel stringer bridge with reinforced concrete floor and a two-span deck steel stringer bridge with reinforced concrete floor in Revere; the surface over the bridges consisting of bituminous concrete. The proposal amounted to \$183,298.25. Work just commenced.

Charlton-Oxford

Nov. 14, 1933, contract made with The Lane Construction Corporation, of Meriden, Conn., for reconstructing about 22,217 feet of State highway on Charleton Road in Oxford, and about 6,600 feet of State highway on Oxford Road in Charlton; the surface consisting of bituminous macadam. The proposal amounted to \$109,669.60. Work not yet commenced.

Marshfield-Scituate

Nov. 15, 1933, contract made with the Lee Construction Co., Inc., of Boston, for reconstructing about 5,996 feet of State highway on Bridge Street in Marshfield, and about 531 feet of State highway on Main Street in Scituate; the surface consisting of bituminous macadam. The proposal amounted to \$86,500.00. Work not yet commenced.

Marshfield-Scituate

Nov. 23, 1933, contract made with the Lee Construction Co., Inc., of Boston, for constructing a creosoted timber pile bridge at the dividing line between the towns of Marshfield and Scituate; the surface on the draw span of the bridge consisting of a structural steel grid floor with a cement concrete filler, and the surface on the rest of the bridge consisting of bituminous concrete. The proposal amounted to \$51,394.75. Work just commenced. Expenditure during 1933, \$493.00.

Easton-Stoughton

Nov. 29, 1933, contract made with Carlo Bianchi and Company, Inc., of Framingham, for reconstructing about 15,550 feet of State highway on Washington Street in Easton, and about 11,460 feet of State highway on the same road in Stoughton; the surface consisting of reinforced cement concrete and bituminous macadam. The proposal amounted to \$143,788.00. Work not yet commenced.

EXPENDITURES FOR CONSTRUCTION OF STATE HIGHWAYS

The expenditures for the construction of State highways in various Counties during the year were:—

Barnstable, \$274,246.73	Hampshire, \$110,545.90
Berkshire, \$20,709.56	Middlesex, \$760,538.27
Bristol, \$324,121.47	Norfolk, \$1,949,595.94
Essex, \$126,070.33	Plymouth, \$374,679.48
Franklin, \$363.10	Suffolk, \$293,992.35
Hampden, \$1,235.14	Worcester, \$100,900.59
	Total, \$4,336,998.86

Details of the foregoing expenditures follow:—

Barnstable County.—Barnstable, \$90,757.30; Bourne, \$130,286.66; Yarmouth, \$53,202.77.

Berkshire County.—Hinsdale, \$88.80; Pittsfield, \$20,620.76.

Bristol County.—No. Attleboro, \$2,692.01; Raynham, \$223,260.81; Seekonk, \$5,502.13; Taunton, \$92,666.52.

Essex County.—Amesbury, \$46,816.33; Lynn, \$396.49; No. Andover, \$5,710.44; Salisbury, \$73,147.07.

Franklin County.—Orange, \$363.10.

Hampden County.—Chester, \$1,235.14.

Hampshire County.—Belchertown, \$2,269.09; Huntington, \$67,328.75; Worthington, \$40,948.06.

Middlesex County.—Arlington, \$18,034.64; Belmont, \$7,003.66; Cambridge, \$3,914.41; Newton, \$731,585.56.

Norfolk County.—Brookline, \$5,742.09; Cohasset, \$138,832.68; Dedham, \$347,302.83; Norwood, \$134,531.98; Quincy, \$21,992.84; Wellesley, \$1,160,443.57; Westwood, \$126,081.94; Weymouth, \$14,668.01.

Plymouth County.—Duxbury, \$723.99; Hingham, \$178,370.06; Kingston, \$228.54; Lakeville, \$26,545.69; Marshfield, \$27.47; Middleboro, \$31,937.19; Pembroke, \$441.26; Scituate, \$136,405.28.

Suffolk County.—Boston, \$100,152.39; Revere, \$193,839.96.

Worcester County.—Athol, \$299.19; Hopedale, \$625.00; Mendon, \$450.62; Milford, \$1,029.52; Oxford, \$30,478.42; Webster, \$35,080.67; Westboro, \$646.73; West Boylston, \$29,595.09; Worcester, \$2,695.35.

EXPENDITURES UNDER THE PROVISIONS OF CHAPTER 119, ACTS OF 1931 Hingham-Hull, \$36.90

EXPENDITURES UNDER THE PROVISIONS OF CHAPTER 122, ACTS OF 1931 For State Highway Construction

Auburn-Worcester	\$86,657.03	Lakeville-Middleboro	\$41,456.15
Erving-Gill	41,142.72	Millbury-Worcester	64,573.75
Erving	1,346.86	Northboro-Shrewsbury	2,013.39
Foxboro-Sharon-Walpole-		Sharon-Norwood-Walpole	40,609.04
Wrentham	22,296.49	Shrewsbury-Worcester	88,897.39
Framingham-Natick	346,894.45	Uxbridge (Ironstone St.)	52,649.74
Framingham-Southboro	28,258.32	Uxbridge (Millville Rd.)	23.00
Gill-Greenfield	52,905.57	Williamstown	535.50
			<hr/>
			\$870,259.40

MAINTENANCE AND REPAIR OF STATE HIGHWAYS

(Section 13, Charter 81, General Laws). The expenditures during the year in various counties were:—

Barnstable, \$192,256.61	Hampshire, \$169,885.06
Berkshire, \$753,907.35	Middlesex, \$394,777.86
Bristol, \$216,890.39	Nantucket, \$110.08
Dukes, \$9,206.57	Norfolk, \$190,129.01
Essex, \$579,420.82	Plymouth, \$326,907.72
Franklin, 154,755.79	Suffolk, \$27,494.52
Hampden, \$180,655.64	Worcester, \$597,084.14
	Total, \$3,793,481.56

Details of the foregoing expenditures follow:—

Barnstable County.—Barnstable, \$8,025.90; Bourne, \$9,436.93; Brewster, \$2,492.80; Chatham, \$3,498.92; Dennis, \$2,719.12; Eastham, \$18,592.83; Falmouth, \$11,210.20; Harwich, \$3,024.81; Mashpee, \$3,519.52; Orleans, \$3,718.03; Provincetown, \$2,040.03; Sandwich, \$9,629.06; Truro, \$2,952.68; Wellfleet, \$3,429.90; Yarmouth, \$107,965.88.

Berkshire County.—Adams, \$6,549.30; Becket, \$14,225.00; Cheshire, \$11,905.28; Clarksburg, \$1,134.65; Dalton, \$8,464.84; Egremont, \$50,-221.36; Florida, \$5,610.14; Great Barrington, \$12,198.25; Hancock, \$233,-708.06; Hinsdale, \$1,615.30; Lanesboro, \$27,802.68; Lee, \$44,112.99; Lenox, \$39,138.88; New Ashford, \$641.30; New Marlboro, \$48.26; No. Adams, \$7,875.35; Otis, \$1,570.42; Pittsfield, \$188,048.32; Richmond, \$1,035.63; Sandisfield, \$1,402.08; Savoy, \$3,801.70; Sheffield, \$4,434.95; Stockbridge, \$40,456.48; Washington, \$1,879.05; West Stockbridge, \$262.32; Williamstown, \$42,107.31; Windsor, \$3,657.45.

Bristol County.—Acushnet, \$1,282.17; Attleboro, \$3,050.62; Berkley, \$3,668.88; Dartmouth, \$2,979.04; Dighton, \$22,407.26; Easton, \$20,-048.18; Fairhaven, \$21,777.44; Fall River, \$80.82; Freetown, \$11,569.93; Mansfield, \$9,906.02; Norton, \$9,362.70; North Attleboro, \$5,228.96; Raynham, \$7,355.08; Rehoboth, \$7,092.48; Seekonk, \$4,522.43; Somerset, \$43,553.31; Swansea, \$11,616.51; Taunton, \$21,868.62; Westport, \$9,-519.94.

Dukes County.—Chilmark, \$1,978.21; Edgartown, \$2,768.07; Gay Head, \$678.88; Oak Bluffs, \$468.68; Tisbury, \$556.50; West Tisbury, \$2,756.23.

Essex County.—Amesbury, \$3,295.02; Andover, \$8,708.24; Beverly, \$6,617.50; Danvers, \$7,918.13; Essex, \$16,205.22; Gloucester, \$6,140.28; Groveland, \$614.65; Hamilton, \$29,870.14; Haverhill, \$12,918.33; Ipswich, \$56,197.20; Lawrence, \$470.30; Lynn, \$2,791.03; Lynnfield, \$13,568.31; Merrimac, \$935.74; Methuen, \$5,484.50; Middleton, \$82,178.11; Newbury, \$130,550.57; Newburyport, \$2,836.36; North Andover, \$28,861.83; Peabody, \$3,986.01; Rockport, \$538.03; Rowley, \$6,218.97; Salem, \$6,-560.91; Salisbury, \$17,771.16; Saugus, \$16,349.41; Swampscott, \$3,388.79; Topsfield, \$5,457.94; Wenham, \$6,176.13; West Newbury, \$96,812.01.

Franklin County.—Ashfield, \$2,497.28; Bernardston, \$2,126.54; Buckland, \$1,872.52; Charlemont, \$11,397.75; Colrain, \$769.38; Conway, \$33,-477.82; Deerfield, \$45,201.89; Erving, \$9,516.95; Gill, \$5,169.96; Greenfield, \$5,072.92; Montague, \$1,885.02; Northfield, \$7,114.30; Orange, \$15,-985.55; Shelburne, \$7,451.65; Sunderland, \$3,075.27; Whately, \$2,140.99.

Hampden County.—Agawam, \$28,216.67; Blandford, \$1,946.01; Brimfield, \$8,856.44; Chester, \$9,785.89; Chicopee, \$1,493.60; East Longmeadow, \$1,010.47; Holland, \$10.29; Holyoke, \$2,327.58; Monson, \$1,-383.15; Palmer, \$10,493.91; Russell, \$7,058.05; Southwick, \$5,139.27; Tolland, \$25.59; Wales, \$7,202.91; Westfield, \$73,275.75; West Springfield, \$8,703.21; Wilbraham, \$13,726.85.

Hampshire County.—Amherst, \$5,284.75; Belchertown, \$73,555.04; Cummington, \$12,297.40; Easthampton, \$927.67; Goshen, \$6,398.87; Granby, \$18,713.20; Hadley, \$2,139.95; Hatfield, \$1,703.88; Huntington, \$7,233.41; Northampton, \$3,830.35; Southampton, \$6,804.27; South Hadley, \$15,983.56; Ware, \$6,309.29; Williamsburg, \$3,055.87; Worthington, \$5,647.55.

Middlesex County.—Acton, \$7,080.81; Arlington, \$12,819.85; Ashby, \$15,791.86; Ashland, \$6,121.39; Ayer, \$2,688.60; Bedford, \$536.20; Billerica, \$20,050.40; Boxboro, \$3,730.20; Burlington, \$35,126.13; Chelmsford, \$18,804.76; Concord, \$4,364.62; Dracut, \$16,827.75; Framingham, \$19,-229.31; Groton, \$33,467.08; Holliston, \$4,788.22; Hudson, \$19,828.32; Lexington, \$3,935.26; Lincoln, \$785.90; Littleton, \$4,774.81; Lowell, \$1,-467.82; Malden, \$89.82; Marlboro, \$8,813.47; Medford, \$518.37; Melrose, \$575.67; Natick, \$6,917.51; Newton, \$4,134.90; North Reading, \$1,835.86; Pepperell, \$15,546.51; Reading, \$7,042.91; Shirley, \$2,648.56; Somerville, \$1,399.40; Stoneham, \$2,191.15; Sudbury, \$7,466.35; Tewksbury, \$19,-778.64; Townsend, \$1,053.82; Tyngsboro, \$5,813.18; Waltham, \$13,148.69; Watertown, \$634.94; Wayland, \$2,969.92; Westford, \$4,265.08; Weston, \$5,259.33; Wilmington, \$5,038.35; Winchester, \$25,853.50; Woburn, \$19,-562.64.

Nantucket County.—Nantucket, \$110.08.

Norfolk County.—Avon, \$1,330.64; Bellingham, \$4,015.17; Braintree, \$28,009.75; Canton, \$3,728.77; Cohasset, \$1,771.75; Dedham, \$21,429.67; Dover, \$929.17; Foxboro, \$2,340.39; Franklin, \$1,166.31; Holbrook, \$12,848.17; Milton, \$19,182.98; Needham, \$11,149.05; Norfolk, \$439.14; Norwood, \$6,048.11; Plainville, \$3,767.52; Quincy, \$1,850.36; Randolph, \$7,391.72; Sharon, \$1,162.12; Stoughton, \$12,552.02; Walpole, \$5,996.38; Wellesley, \$5,612.27; Westwood, \$3,407.97; Weymouth, \$19,129.93; Wrentham, \$14,869.65.

Plymouth County.—Abington, \$3,116.79; Bridgewater, \$1,609.49; Brockton, \$5,388.06; Duxbury, \$2,261.91; East Bridgewater, \$7,559.53; Hanover, \$1,746.55; Hingham, \$6,631.30; Hull, \$448.21; Kingston, \$1,145.62; Lakeville, \$11,759.96; Marion, \$2,193.78; Marshfield, \$2,804.70; Mattapoisett, \$70,771.40; Middleboro, \$84,403.85; Norwell, \$2,002.43; Pembroke, \$1,785.72; Plymouth, \$9,044.18; Rochester, \$9,534.24; Rockland, \$1,223.24; Scituate, \$4,618.04; Wareham, \$77,517.13; West Bridgewater, \$1,404.74; Whitman, \$17,936.85.

Suffolk County.—Boston, \$3,155.99; Chelsea, \$696.38; Revere, \$23,642.15.

Worcester County.—Ashburnham, \$9,560.22; Athol, \$3,503.58; Auburn, \$6,522.39; Barre, \$2,809.68; Blackstone, \$8,110.17; Brookfield, \$2,027.55; Charlton, \$37,884.67; Clinton, \$10.88; Douglas, \$446.72; Dudley, \$2,643.10; East Brookfield, \$3,149.27; Fitchburg, \$2,023.86; Gardner, \$2,218.46; Grafton, \$10,998.41; Hardwick, \$272.71; Harvard, \$15,823.49; Holden, \$6,265.11; Hopedale, \$158.64; Lancaster, \$13,885.66; Leicester, \$2,154.36; Leominster, \$803.84; Lunenburg, \$2,239.22; Mendon, \$3,407.11; Milford, \$1,998.67; Millbury, \$3,125.93; Millville, \$13,579.76; New Braintree, \$77.05; North Brookfield, \$512.71; Northboro, \$18,817.60; Northbridge, \$3,239.60; Oakum, \$76,115.60; Oxford, \$109,961.69; Paxton, \$5,626.80; Petersham, \$2,854.19; Phillipston, \$840.68; Princeton, \$19,445.27; Rutland, \$25,921.45; Shrewsbury, \$50,768.77; Southboro, \$3,939.61; Southbridge, \$1,706.35; Spencer, \$2,294.83; Sterling, \$4,567.89; Sturbridge, \$5,219.65; Sutton, \$6,890.82; Templeton, \$5,780.34; Upton, \$5,601.49; Uxbridge, \$15,990.51; Warren, \$1,801.99; Webster, \$17,819.61; West Boylston, \$6,339.53; West Brookfield, \$1,204.57; Westboro, \$7,532.56; Westminster, \$8,957.94; Winchendon, \$14,694.51; Worcester, \$16,937.07.

Miscellaneous expenditures are as follows:—

Truck repairs	\$14,010.15	
Truck operation	3,038.90	
Truck plow repairs	17,547.28	
Tractor repairs	11,673.15	
Tractor operation	2,535.20	
Tractor plow repairs	12,946.41	
Snow fence	1,048.33	
Expenditures under towns	443,269.84	
		\$506,069.26
Warning signs	18,388.70	
Direction signs	51,534.42	
Regulatory signs	1,189.66	
Control signals	50,622.07	
Traffic survey	22,600.77	
Traffic permits	1,021.45	
Traffic census	8,614.41	
		153,971.48
Somerset Bridge	16,703.60	
Newburyport Bridge	11,350.43	
Fairhaven-New Bedford Bridge	14,486.01	
		42,540.04

30	P. D. 54
Detour bulletins	1,154.15
Construction of D St. garage	40,802.91
Heating Plant at D St. garage	7,093.80
	<hr/>
Total of miscellaneous expenditures	\$751,631.64

REMOVAL OF SNOW AND ICE FROM STATE HIGHWAYS

The authority of the Department relative to the removal of snow and ice from State highways has been provided by section 19, chapter 81, General Laws, as amended.

The cooperation of the Department with officers of cities, towns and counties, in keeping open and reasonably passable for vehicles during the winter months such highways as may be selected by the Department is provided for in section 11, chapter 84, General Laws, as amended.

In accordance with the provisions of these laws, the Department selected 1,768 miles of highways on the principal routes of travel, 1,612 miles of which are State highways and 156 miles town highways.

The work of snow removal on these routes is performed in a large part by the trucks and tractors owned and operated by the Department, but certain towns and cities, by agreement with the Department, perform part of the work of snow removal on the portions of the routes within their limits. All of this work is done under the direction and supervision of the Department.

The expenditures by the Department for snow removal during the year under the provisions of both the above-mentioned laws amounted to a total of \$506,069.26, which includes the cost of maintenance and repair of the equipment, actual cost of plowing and purchase of materials, such as calcium chloride and sand for use on icy conditions of the road surfaces.

UNIFORM TRAFFIC SIGNS, LIGHTS, MARKINGS, SIGNAL SYSTEMS AND REGULATIONS

Authority and jurisdiction relating to the erection of traffic signs, lights, markings, signal systems and regulations on highways within the Commonwealth was placed in the Department of Public Works by chapter 257 of the Acts of 1928. The Department is thereby enabled to insure that all traffic control signals to be erected by the municipalities shall conform to standards adopted by the Department and cooperates with the cities and towns for the purpose of properly locating and operating such signals. All through ways desired by the municipalities must first be approved by the Department before such may become effective.

In order to secure uniformity in the matter of traffic control, the Department has issued four bulletins which present the standards required to be met by the cities and towns of the State for the installation and maintenance of traffic signs, signals and devices and traffic regulations for the control of traffic.

TRAFFIC CONTROL SIGNALS AND REGULATIONS APPROVED

During the year the Department has issued permits to cities and towns for the following traffic control features:

	In 1933
Traffic Signals, at intersections	141
Traffic Beacons	9
Through Ways	2
Traffic Signs and Markings	57
Traffic Rules and Regulations	82
Isolated Stop Signs	97

Such information included the type of district, layout of the roadway, means of traffic control, atmospheric conditions, light conditions, condition of roadway, physical obstructions in the roadway and obstructions

to view. This information is required in reports submitted to the Registry of Motor Vehicles and is supplied to the traffic engineering section for study.

DIRECTION SIGNS, ROUTE MARKERS, WARNING SIGNS AND TRAFFIC CONTROL SIGNALS ERECTED BY DEPARTMENT

The Department has given a great deal of study to the determination of the important routes of travel for the purpose of marking and furnishing direction signs as aids for traveling.

The placing of route numbers and direction signs at points of advantage on these designated highways is done by the Department both on State highways and on city and town ways, permission for the latter being obtained from the local authorities. Warning signs and traffic control signals which are erected and maintained by the Department are placed only on State highways.

At locations where the hazard was particularly great and where traffic signals could not be used, neon tubes forming the legend were erected. This type of sign is especially advantageous on foggy nights since it has greater penetrating power than any light or reflector unit.

The manufacture of many of these signs and the erection and maintenance of all of these signs and signals are part of the highway maintenance activities.

TRAFFIC ACCIDENT STUDIES

Studies have been continued to ascertain the attendant circumstances and physical characteristics at points on the highways where accidents have occurred, in order to measure the effectiveness of control or lack of control of traffic movements at such points.

TRAFFIC COUNT

In 1909 the Massachusetts Highway Commission commenced recording by actual count the number and types of vehicles on the important State highways and since that time traffic counts have been taken every three years. The Department now obtains information not only for State highways but also for other important routes.

Only seventeen stations selected for the traffic counts of the various years have been identical throughout this study. The growth of traffic volume is indicated by the following tabulation, which gives the average number of vehicles per day per station for these seventeen stations.

Year of Count	Average number of vehicles per day per station
1909	364
1912	631
1915	920
1918	1676
1921	2465
1924	4517
1927	4977
1930	6468
1933	5481

The reduction during 1933 is due probably to the fact that three of these stations are now on by-passed routes.

The traffic count of this year is taken at stations, principally intersections, on the various numbered routes. The tabulation below gives the average number of vehicles per day for an average day and for an average Sunday in August. Other data obtained but not printed herewith is used by the Department in various studies of highway traffic problems. The districts mentioned in tabulations are those outlined at the beginning of the report of the Department.

MOTOR VEHICLE TRAFFIC AT INTERSECTIONS ON NUMBERED AUTOMOBILE ROUTES

The figures given below are calculated values based upon actual counts as modified by the daily variation factors of the key stations.

Sta. No.	Town	Routes	Number of Vehicles per average Day in August		Number of Vehicles per average Sunday in August	
			1930	1933	1930	1933
DISTRICT 1						
4	Adams	116	-	1,012	-	429
22	Becket	8-20	2,357	2,578	4,173	5,015
22A	Becket	8-20	2,109	-	3,909	-
		Otis Rd.				
33	Blandford	North St.	-	3,095	-	4,240
58	Cheshire	8	-	4,071	-	5,272
63	Clarksburg	8	1,523	-	2,223	-
70	Dalton	8-9	5,578	5,374	7,343	6,875
92	Egremont	17-41	2,421	2,668	3,118	3,467
116	Gr. Barrington	7-17	7,562	-	9,736	-
116A	Gr. Barrington	7-118	7,548	-	9,713	-
116B	Gr. Barrington	7	6,922	7,187	8,907	9,117
116C	Gr. Barrington	17-41	3,168	3,158	4,080	4,197
125	Hancock	2	453	-	608	-
136	Hinsdale	8-143	3,646	2,051	4,818	2,364
147	Huntington	66-112	676	631	1,195	727
147A	Huntington	20-112	5,224	3,672	9,139	5,029
152	Lanesboro	7	3,153	2,588	4,289	3,343
154	Lee	20-102	4,629	5,014	5,861	6,867
156	Lenox	7-20	7,339	7,852	9,372	10,385
156A	Lenox	20	-	-	-	-
156B	Lenox	7-20	7,465	7,872	9,529	10,547
213	No. Adams	2	-	-	-	-
213A	No. Adams	8	4,860	-	7,143	-
213B	No. Adams	2-8	-	5,961	-	7,158
219	Otis	8	1,136	1,351	2,032	1,850
240	Pittsfield	8-9	14,278	8,750	19,059	11,832
240A	Pittsfield	20-41	5,266	5,870	4,698	4,888
260	Russell	20	3,825	5,712	7,092	7,822
265	Sandisfield	8	-	909	-	1,244
272	Sheffield	7	3,586	3,527	3,527	4,587
288	Stockbridge	7-141	6,606	-	8,507	-
288A	Stockbridge	141	2,781	-	3,782	-
288B	Stockbridge	102-188	-	1,552	-	2,079
388	W. Stockbridge	41-102	1,393	1,324	1,836	1,775
346	Williamstown	7	4,821	-	6,500	-
346A	Williamstown	7-43	2,961	2,422	4,093	2,904
346B	Williamstown	2-7	13,852	-	18,466	-
346D	Williamstown	2-7	1,415	3,072	1,012	3,638
346C	Williamstown	2-7	-	6,198	-	7,431
350	Windsor	109	2,917	-	3,853	-
354	Worthington	112-143	1,519	881	2,033	1,012
354A	Worthington	112-109-A	-	-	-	-
DISTRICT 2						
5	Agawam	Alt. 5	5,851	4,472	6,761	5,078
8	Amherst	9 & 116	5,059	4,116	7,096	6,235
13	Ashfield	112 & 116	1,326	1,028	2,266	1,856
13A	Ashfield	112 & 116	-	853	-	473
24	Belchertown	21 & 139	-	1,462	-	1,907
24A	Belchertown	21	3,540	2,719	5,488	3,888
29	Bernardston	5 & 10	4,795	4,225	7,066	6,071
47	Buckland	2 & 112	4,829	3,274	7,508	4,841
66	Colrain	56	-	875	-	1,095
69	Cummington	9 & 112	1,588	1,755	2,090	2,255
75	Deerfield	5-10-116	7,198	6,943	11,322	9,153
75A	Deerfield	116	-	-	-	-
88	Easthampton	10	7,258	7,588	10,145	9,354
88A	Easthampton	5	9,562	9,251	13,374	12,150
89	East Longmeadow	88	-	3,285	-	2,731
93	Enfield	21-109	2,606	-	4,188	-
94	Erving	2-63	-	-	-	-
111	Goshen	108-112	2,968	-	3,921	-
117	Greenfield	2	7,049	-	11,194	-
117A	Greenfield	5-10	6,634	10,684	7,868	11,305
117B	Greenfield	5-10	7,502	11,992	6,293	9,043
117C	Greenfield	2-2-A	-	5,651	-	8,782
121	Hadley	9	4,331	-	7,010	-
121A	Hadley	9	-	4,332	-	6,145
141	Holyoke	5	12,661	12,804	17,012	14,516
141A	Holyoke	5	-	-	-	-
141B	Holyoke	5	15,792	26,244	18,978	24,900
214	Northampton	5-10	9,470	-	14,814	-

Sta. No.	Town	Routes	Number of Vehicles per average Day in August		Number of Vehicles per average Sunday in August	
			1930	1933	1930	1933
214A	Northampton	5-10	-	4,726	-	6,699
220	Northfield	10-63	2,844	2,062	4,237	2,963
227	Orange	2-78	4,484	4,004	6,062	6,178
283	So. Hadley	116-139	6,794	7,117	7,558	8,509
284	Southwick	10-57	3,810	3,823	5,014	5,235
286	Springfield	5	-	-	-	-
286A	Springfield	20 21	9,207	12,399	12,338	14,082
286B	Springfield	20-20A	11,049	-	14,855	-
286C	Springfield	5-21	11,221	12,046	15,036	13,680
294	Sunderland	63-116	-	2,171	-	2,249
314	Ware	32-109	7,422	-	11,925	-
314A	Ware	9-32	-	4,059	-	5,782
330	Westfield	10	-	-	-	-
330A	Westfield	20	7,983	-	10,693	-
330B	Westfield	10-139	3,424	3,890	4,589	4,380
337	W. Springfield	5-20	18,320	21,041	24,555	24,106
337A	W. Springfield	5-20A	26,131	-	35,031	-
337B	W. Springfield	20-57	12,514	13,490	16,761	15,456
337C	W. Springfield	20	-	11,224	-	12,847
344	Wilbraham	20	7,032	-	11,153	-
345	Williamsburg	9-143	2,481	2,153	3,285	2,672

DISTRICT 3

11	Ashburnham	118	1,110	1,637	1,971	2,559
15	Athol	2-32	6,526	5,176	9,067	8,109
15A	Athol	2	7,546	-	10,128	-
15B	Athol	2	-	5,758	-	8,882
17	Auburn	12	9,543	8,259	12,995	11,768
17A	Auburn	12-20	-	12,537	-	16,804
21	Barre	32-122	2,430	3,603	1,690	2,840
21A	Barre	32-67	1,557	2,321	1,090	1,832
28	Berlin	62	2,160	2,664	2,305	3,726
34	Bolton	117	1,644	2,372	1,554	2,517
34A	Bolton	110-117	2,647	3,817	3,384	5,424
39	Boylston	70	3,574	5,630	2,573	3,982
43	Brimfield	19-20	3,133	4,965	5,187	7,592
54	Charlton	20-93	4,195	6,664	8,800	12,040
71	Dana	21	-	713	-	1,113
81	Dudley	12-197	5,684	6,810	8,869	9,567
85	E. Brookfield	9-67	6,827	5,455	10,826	7,123
100	Fitchburg	2-12	10,696	9,895	19,275	15,366
100A	Fitchburg	2-120	7,706	5,592	13,368	8,683
106A	Fitchburg	2-68	9,019	-	13,511	-
113	Grafton	122-140	5,220	5,142	9,782	8,458
113A	Grafton	30-122	5,608	10,389	5,650	9,294
113B	Grafton	122-122A	6,087	5,832	9,002	9,594
129	Harvard	110-111	2,894	2,618	5,882	4,258
138	Holden	68-122A	2,664	1,727	3,707	2,697
138A	Holden	122A	4,592	3,505	6,385	5,476
138B	Holden	120-122A	5,617	3,695	7,816	5,772
144	Hubbardston	62-68	-	5,245	-	8,150
155	Leicester	9	9,445	7,501	15,161	11,060
157	Leominster	12	7,889	7,155	12,652	10,784
157A	Leominster	13	-	3,248	-	4,896
166	Lunenburg	2-2A	3,979	3,484	8,104	5,457
166A	Lunenburg	2-13	5,847	5,685	11,910	8,684
183	Mendon	126	3,239	2,550	5,116	5,375
189	Mildford	109-126	5,416	4,363	7,859	9,422
189A	Milford	140	2,697	2,709	4,055	4,784
189B	Milford	126-140	-	6,110	-	7,602
190	Millbury	122A	4,890	6,021	6,666	9,905
192	Millville	122	5,044	-	7,456	-
195	Monson	32	1,168	1,017	1,851	1,460
217	Northboro	9-20	-	13,091	-	20,773
217A	Northboro	20	-	6,714	-	9,938
218	Northbridge	122	5,041	5,026	6,505	6,239
230	Oxford	12-20	7,803	12,075	11,845	17,169
230A	Oxford	12	6,205	-	8,487	-
231	Palmer	20	6,094	5,929	10,150	8,979
231A	Palmer	32	2,355	2,467	3,922	3,514
231B	Palmer	32	2,240	2,173	3,729	3,290
232	Paxton	122	-	2,260	-	3,809
238	Petersham	32	1,869	1,757	2,786	2,953
246	Princetown	64-120	877	1,250	1,392	1,934
246A	Princetown	64-120	758	-	1,194	-
B	Quinebaug, Conn.	131-197	1,918	2,445	2,993	3,459
262	Rutland	122-122A	3,071	1,417	4,577	2,382
276	Shrewsbury	9	19,070	16,884	30,771	27,042
		{Main St.	12,701	6,946	20,492	10,982
		{Maple Ave.				
276A	Shrewsbury	9	-	12,110	-	16,909
276B	Shrewsbury	20	-	6,304	-	9,714
276C	Shrewsbury	20	-	-	-	-

Sta. No.	Town	Routes	Number of Vehicles per average Day in August		Number of Vehicles per average Sunday in August	
			1930	1933	1930	1933
281	Southboro	30-85	2,279	2,009	3,738	3,278
281R	Southboro	9	—	10,345	—	16,858
282	Southbridge	124A	3,438	—	5,853	—
282A	Southbridge	93-131	3,204	4,039	5,452	5,714
287	Sterling	12-62	3,747	3,512	6,009	5,294
287A	Sterling	62-64	—	1,840	—	2,847
292	Sturbridge	20	—	5,475	—	7,854
292A	Sturbridge	15-131	4,127	7,241	6,558	9,635
292B	Sturbridge	131	2,535	—	4,026	—
		Manchaug Rd.				
295	Sutton	Hartford T'npike		918	—	1,300
299	Templeton	Rt. 2	5,187	4,382	7,269	6,803
299A	Templeton	2-32	4,456	3,601	6,245	5,591
299B	Templeton	32	5,903	2,711	8,266	4,209
308	Upton	140	—	—	—	—
309	Uxbridge	122-146	—	4,014	—	4,253
311	Wales	32	—	—	—	—
316	Warren	19	—	3,070	—	4,648
321	Webster	12-193	—	5,644	—	7,929
326	Westboro	135	1,957	789	3,213	1,247
326A	Westboro	9-30	1,998	10,065	3,277	16,421
326B	Westboro	9	—	11,058	—	18,104
327	W. Boylston	12-110	4,938	5,252	7,826	8,145
327A	W. Boylston	12-64	6,863	—	10,886	—
329	W. Brookfield	9-19	5,793	4,368	9,206	6,415
333	Westminster	2	—	—	—	—
333A	Westminster	2-64	7,163	6,890	10,033	10,696
333B	Westminster	64	—	1,061	—	1,647
348	Winchendon	12-64	2,480	2,670	3,449	4,171
348A	Winchendon	32	1,546	1,469	2,102	2,281
348B	Winchendon	12-32	7,219	5,085	10,104	7,895
353	Worcester	122	4,895	—	7,297	—
353A	Worcester	12	10,131	—	16,058	—
353B	Worcester	20	—	8,139	—	12,541
353C	Worcester	20	—	7,566	—	11,659

DISTRICT 4

10	Arlington	2-3	—	15,664	—	21,644
12	Ashby	31-26-119	2,595	2,215	5,278	4,364
14	Ashland	135	3,642	—	6,054	—
19	Ayer	2	5,208	4,863	10,819	7,619
19A	Ayer	2-110-111	5,704	6,427	11,622	10,097
23	Bedford	2A-4-62	7,779	7,646	15,528	13,733
23A	Bedford	2A-4-62	8,101	7,628	16,734	13,959
23B	Bedford	2A-4	—	6,981	—	12,577
31	Billerica	3	5,874	4,019	11,039	7,649
48	Burlington	3-62	7,403	7,307	12,785	12,088
48A	Burlington	3-62	6,047	5,851	10,444	10,101
49	Cambridge	2-3	30,013	28,409	25,594	39,256
51	Carlisle	2A-126	1,372	2,154	2,740	3,879
56	Chelmsford	3-4-126	10,936	9,576	18,842	14,281
56A	Chelmsford	4-110	13,653	11,169	27,247	20,173
56B	Chelmsford	3	12,697	—	19,353	—
56C	Chelmsford	4-126	6,761	4,619	13,494	8,319
67	Concord	2-111	5,457	6,256	13,554	9,988
67A	Concord	117-126	2,252	1,966	4,870	2,752
67B	Concord	2	—	—	—	—
67C	Concord	2-62	8,519	9,733	21,162	15,539
67D	Concord	62	3,493	—	8,285	—
67E	Concord	62-126	—	11,601	—	16,016
67F	Concord	27-126	—	5,823	—	7,123
80	Dracut	113	—	1,556	—	2,328
103	Framingham	115	8,429	—	14,245	—
103A	Framingham	126-135	20,306	26,770	33,462	43,308
103B	Framingham	30	—	4,979	—	8,124
103C	Framingham Ctr.	9-126	—	17,540	—	23,818
103D	Framingham	9-30	—	13,369	—	21,811
103E	Framingham	9	—	12,196	—	19,898
119	Groton	2A-119	2,029	2,141	4,130	3,779
119A	Groton	2A-119	3,024	3,563	6,153	6,289
119B	Groton	111-119	2,992	2,869	6,088	5,010
140	Holliston	16-126	5,245	2,889	5,654	3,120
143	Hopkinton	85-135	2,709	2,513	4,216	2,713
145	Hudson	85	4,607	3,850	7,505	5,360
159	Lexington	2-128	11,048	11,482	25,597	15,797
159A	Lexington	2A	—	—	—	—
159B	Lexington	2	13,865	13,882	33,659	19,183
159C	Lexington	2-2A4	21,964	12,988	36,977	17,947
159D	Lexington	2	6,822	—	15,805	—
159E	Lexington	128	5,601	—	13,601	—
159F	Lexington	2A-4-123	—	15,939	—	21,531
161	Lincoln	117	4,591	—	7,699	—

Sta. No.	Town	Routes	Number of Vehicles per average Day in August		Number of Vehicles per average Sunday in August	
			1930	1933	1930	1933
161A	Lincoln	27-117	-	2,574	-	3,148
162						
162A	Littleton	2-110-119	9,334	8,983	16,586	14,604
164	Lowell	28-133	9,539	8,847	14,497	11,234
164A	Lowell	113	10,721	-	16,296	-
169	Malden	1-60	26,731	26,018	44,695	40,464
174	Marlboro	20	11,019	5,899	15,406	8,565
174A	Marlboro	20	12,442	7,488	17,397	10,872
174B	Marlboro	20-85	-	11,223	-	16,295
174C	Marlboro	20-85	-	13,426	-	19,495
178	Maynard	62-117	3,352	3,231	5,499	4,499
180	Medford	28	12,011	-	19,821	-
180A	Medford	1-28	60,524	57,003	99,942	90,022
180B	Medford	28-60	-	23,436	-	37,010
180C	Medford	38-60	-	17,387	-	27,032
202	Natick	135	10,682	-	15,531	-
202A	Natick	115	5,173	-	7,526	-
202B	Natick	27-135	-	16,626	-	27,131
202C	Natick	9	-	10,867	-	17,674
202D	Natick	9	-	10,779	-	17,586
202E	Natick	9	-	11,599	-	18,923
202F	Natick	135	-	7,744	-	18,088
202G	Natick	9	-	11,868	-	19,362
211	Newton	20A-128	-	-	-	-
211A	Newton	16	11,406	13,047	18,607	21,259
211B	Newton	115-A-128	-	-	-	-
211C	Newton	115-128	-	-	-	-
211D	Newton	30	12,156	12,405	15,605	20,239
211E	Newton	9	-	14,074	-	22,961
211F	Newton	9	-	15,275	-	24,919
211G	Newton	9	-	13,734	-	22,411
211H	Newton	-	-	-	-	-
211I	Newton	9	-	11,905	-	19,422
211J	Newton	30-128	15,077	13,083	24,958	21,346
211K	Newton	16-128	12,019	14,894	19,609	24,298
211L	Newton	9-128	12,636	25,133	20,615	40,930
221	No. Raeding	26-62	9,798	12,084	15,993	19,084
221A	No. Reading	28-62	9,613	11,801	15,940	18,758
236	Pepperell	113-119	1,566	1,761	3,187	3,109
236A	Pepperell	111-113	-	2,606	-	4,599
251	Reading	28	10,612	-	17,519	-
274	Sherborn	16-27	2,102	2,018	3,654	2,179
274A	Sherborn	16-27	-	2,130	-	2,299
279	Somerville	1-28-38	21,828	28,276	46,783	44,655
289	Stoneham	28-128	-	19,999	-	31,583
291	Stow	62-117	2,891	2,513	4,743	3,499
293	Sudbury	20-126	10,036	4,917	16,342	7,140
293A	Sudbury	20-126	9,635	5,237	15,809	7,605
293B	Sudbury	126	3,224	2,377	5,290	3,413
293C	Sudbury	117	-	-	-	-
300	Tewksbury	38	3,915	4,460	5,946	5,662
304	Townsend	13-119	-	3,289	-	5,805
306	Tyngsboro	3-113	9,106	8,217	15,632	12,295
306A	Tyngsboro	3-113	8,463	-	14,528	-
306B	Tyngsboro	113	-	2,540	-	3,799
313	Waltham	20-117	19,068	12,845	27,167	16,705
313A	Waltham	20-60	23,510	19,088	33,496	27,146
320	Wayland	20-27	11,409	8,309	18,522	11,572
320A	Wayland	27-30	-	6,123	-	8,220
322	Wellesley	9	5,168	16,348	7,515	26,670
322A	Wellesley	9-16	15,679	22,844	22,794	22,991
322B	Wellesley	135	8,864	12,439	12,887	20,295
322C	Wellesley	16-135	13,521	17,908	19,656	29,205
322D	Wellesley	16-135	13,008	16,286	18,911	25,432
322E	Wellesley	9	-	12,524	-	20,432
322F	Wellesley	9	-	11,835	-	18,486
322G	Wellesley	9	-	12,351	-	16,738
331	Westford	2-A-110	4,287	3,973	7,177	6,855
331A	Westford	110	3,810	-	6,381	-
331B	Westford	2A-110	-	3,563	-	6,147
331C	Westford	2A-110	-	3,685	-	6,358
335	Weston	20-20A	13,346	-	19,495	-
335A	Weston	30	5,903	5,344	9,632	8,611
335B	Weston	20	-	7,267	-	11,389
347	Wilmington	38-129	6,548	6,194	11,309	10,637
347A	Wilmington	38-62	7,638	7,310	13,193	11,984
352	Woburn	3-128	8,682	9,759	16,313	13,133
352A	Woburn	38-128	15,258	17,979	37,317	24,142

Sta. No.	Town	Routes	Number of Vehicles per average Day in August		Number of Vehicles per average Sunday in August	
			1930	1933	1930	1933
			DISTRICT 5			
7	Amesbury	110	7,699	9,885	10,222	13,863
7A	Amesbury	110	4,672	6,028	5,977	8,455
9	Andover	28-133	13,395	19,234	20,776	30,565
9A	Andover	28	-	-	-	-
9B	Andover	28-125	-	12,486	-	19,969
30	Beverly	127	-	-	-	-
30A	Beverly	1-A-97	9,395	7,557	16,336	11,921
30B	Beverly	1-A-62	12,152	13,645	21,130	21,514
30C	Beverly	1-A-22-127	22,391	29,015	38,933	45,748
30D	Beverly	127	9,574	9,158	16,647	14,441
72	Danvers	1-114	16,562	15,866	27,969	24,966
72A	Danvers	1-62	16,360	14,839	27,202	21,651
95	Essex	121	4,386	6,039	7,339	9,688
95A	Essex	Western and Northern Ave.	-	-	-	-
95B	Essex	22-121	6,602	5,462	9,993	8,737
108	Georgetown	97-133	3,728	5,508	6,518	8,822
108A	Georgetown	97-133	1,789	2,335	3,128	3,741
110	Gloucester	121-127	16,287	14,146	30,725	22,443
120	Groveland	97-125	6,091	5,669	8,661	8,463
123	Hamilton	1A	-	-	-	-
132	Haverhill	108-110	10,596	12,235	18,738	19,598
148	Ipswich	1A-121	6,199	6,084	11,032	9,569
148A	Ipswich	1	-	-	-	-
167	Lynn	1A	15,371	-	26,726	-
167A	Lynn	1A-129	-	-	-	-
167B	Lynn	107	11,057	9,922	19,225	15,643
167C	Lynn	1A-129	-	22,134	-	34,898
168	Lynnfield	1-128	21,735	21,682	36,347	33,484
168A	Lynnfield	128	-	-	-	-
172	Marblehead	129	9,525	12,685	16,562	19,999
185	Methuen	28-113	15,078	13,124	24,477	21,150
185A	Methuen	110	-	-	-	-
185B	Methuen	110	8,957	6,518	15,494	10,496
185C	Methuen	110	7,331	6,523	12,686	10,565
188	Middleton	62-114	8,376	5,621	11,244	9,739
207	Newbury	1	-	-	-	-
207A	Newbury	1A	-	-	-	-
208	Newburyport	1-1A	13,093	16,955	24,771	23,823
208B	Newburyport	125	5,638	5,047	8,023	7,535
215	N. Andover	114-133	4,319	5,358	7,472	8,584
215A	N. Andover	125-133	5,867	6,099	9,739	9,771
215B	N. Andover	114-125	7,773	8,248	13,339	13,336
215C	N. Andover	125-133	5,955	-	9,887	-
215D	N. Andover	125-133	6,029	7,161	12,995	11,471
215E	N. Andover	114-125	-	6,449	-	10,777
233	Peabody	1	-	-	-	-
233A	Peabody	128	10,863	11,360	19,154	17,911
233B	Peabody	114	7,991	10,753	14,090	16,954
253	Revere	1A	18,068	15,001	31,417	23,651
253A	Revere	1A	25,839	27,188	44,929	42,867
253B	Revere	1A-60	18,643	18,510	32,419	29,185
253C	Revere	1A-107	51,765	41,303	90,011	65,121
253D	Revere	60-107	21,916	21,219	38,107	33,450
253E	Revere	60-107	24,107	19,308	41,920	30,441
257	Rockport	127	5,473	5,302	10,203	8,413
259	Rowley	1-133	9,784	11,488	13,543	17,515
259A	Rowley	1	-	-	-	-
259B	Rowley	1A-133	3,710	3,659	5,136	5,732
259C	Rowley	1A	-	-	-	-
263	Salem	1A	11,254	10,925	19,570	17,224
263A	Salem	1A	-	-	-	-
263B	Salem	1A-129	13,109	12,010	23,285	18,937
263C	Salem	107-128	8,509	18,510	14,793	19,244
264	Salisbury	1-1A	15,706	15,597	22,342	23,281
264A	Salisbury	1A	5,821	2,823	5,691	4,214
267	Saugus	1-129	14,489	16,716	24,320	25,815
267A	Saugus	1	-	-	-	-
267B	Saugus	1	14,794	11,882	24,733	18,351
267C	Saugus	1	-	15,258	-	23,564
303	Topsfield	1-97	11,135	11,528	18,518	17,576
303A	Topsfield	1	-	-	-	-
303B	Topsfield	1	10,471	10,949	17,414	16,693
334	W. Newbury	125	3,002	3,832	4,272	4,284
E	Seabrook, N. H.	1-110	9,208	11,977	9,005	17,152

DISTRICT 6

3	Acushnet	105	1,221	1,186	2,123	1,772
16	Attleboro	1-123	11,012	8,922	16,595	12,305
16A	Attleboro	1A-123	-	6,671	-	8,805
18	Avon	28	-	-	-	-

Sta. No.	Town	Routes	Number of Vehicles per average Day in August		Number of Vehicles per average Sunday in August	
			1930	1933	1930	1933
25	Bellingham	140	3,288	3,054	5,151	5,394
35	Boston	3	60,839	41,639	87,294	66,236
35A	Boston	1	—	9,749	—	13,361
40	Braintree	37-128	10,275	11,067	17,147	19,353
40A	Braintree	37-128	9,956	10,796	16,615	18,880
50	Canton	128-138	15,300	15,134	27,261	20,889
50A	Canton	138	13,901	—	23,745	—
73	Dartmouth	6	9,433	9,551	14,371	11,883
74	Dedham	11	13,946	17,050	20,226	23,367
74A	Dedham	1	12,886	—	18,689	—
74B	Dedham	128-137	9,109	—	13,063	—
74C	Dedham	11-135	16,064	14,953	22,884	20,492
74D	Dedham	109-128	—	10,417	—	17,131
74E	Dedham	11-128	—	18,466	—	26,939
74F	Dedham	1-1A	—	—	—	—
77	Dighton	138	5,341	—	7,235	—
90	Easton	123-138	10,644	9,366	17,748	13,300
90A	Easton	106-123	2,844	—	4,750	—
90B	Easton	106-123	1,604	2,282	2,679	3,960
90C	Easton	106-138	9,192	8,579	15,530	12,592
90D	Easton	138 z	10,695	—	17,422	—
90E	Easton	138	10,969	—	18,739	—
97	Fairhaven	6	10,465	8,499	18,726	12,698
97A	Fairhaven	6	10,291	—	17,907	—
98	Fall River	138	14,322	12,661	21,819	15,750
102	Foxboro	140	4,540	—	7,067	—
102A	Foxboro	1	—	6,981	—	11,275
104	Franklin	140	—	—	—	—
104A	Franklin	140	5,422	5,181	8,473	9,149
105	Freetown	18,140	4,004	4,281	7,161	7,542
137	Holbrook	37	7,987	—	13,639	—
171	Mansfield	106	1,939	—	3,332	—
171A	Mansfield	140	4,592	4,853	7,902	8,422
179	Medfield	27-109	4,943	3,408	6,732	3,679
181	Medway	109	3,052	2,430	4,429	2,623
181A	Medway	137	—	—	—	—
191	Millis	137	3,181	—	4,616	—
193	Milton	28-135	5,828	9,239	9,723	11,566
193A	Milton	28	3,735	—	6,460	—
193B	Milton	135-138	14,372	9,698	24,546	13,753
193C	Milton	28-138	29,169	—	49,831	—
203	Needham	128-135	5,817	—	8,439	—
203A	Needham	Hunnewell St. Highland Ave.	6,298	—	10,121	—
203B	Needham	128	—	7,703	—	12,668
216	N. Attleboro	1	—	—	—	—
216A	N. Attleboro	1-150	11,213	11,432	16,578	16,329
222	Norton	123-140	—	4,829	—	8,381
242	Plainville	1	—	—	—	—
248	Quincy	3	17,518	17,382	24,256	20,819
248A	Quincy	28-128	4,742	12,001	7,795	17,059
249	Randolph	28	7,084	—	11,821	—
250	Raynham	102	2,104	—	3,552	—
250A	Raynham	138	7,772	—	12,971	—
270	Seekonk	Mink St. School St.	2,354	2,616	3,886	3,718
270A	Seekonk	6	16,093	—	26,565	—
270B	Seekonk	101	9,788	8,328	14,899	1,184
270C	Seekonk	6	—	14,632	—	20,804
271	Sharon	15	5,493	—	8,285	—
278	Somerset	6-138	13,691	20,438	28,493	25,738
278A	Somerset	103	7,174	—	10,503	—
278B	Somerset	138	5,260	—	7,124	—
290	Stoughton	138	12,143	—	20,740	—
297	Swansea	103	2,648	3,212	5,218	3,551
297A	Swansea	6	—	—	—	—
297B	Swansea	6-136	11,474	12,039	15,898	17,116
298	Taunton	101	3,978	—	6,993	—
298A	Taunton	101	5,113	4,564	8,897	6,435
298B	Taunton	101-140	6,082	4,993	10,615	7,039
298C	Taunton	140	4,065	—	7,098	—
298D	Taunton	101-104	—	—	—	—
312	Walpole	1	11,887	—	17,248	—
312A	Walpole	11-27	12,798	7,389	23,020	10,344
312B	Walpole	1-27	—	—	—	—
336	Westport	6	10,704	—	16,308	—
336A	Westport	6	—	9,219	—	11,469
340	Westwood	11	17,255	19,078	25,037	27,432
340A	Westwood	137	—	—	—	—
341	Weymouth	3-18	13,926	12,270	19,281	14,736
341A	Weymouth	3A	23,361	23,098	32,346	36,741
341B	Weymouth	58-102	9,043	—	10,726	—

Sta. No.	Town	Routes	Number of Vehicles per average Day in August		Number of Vehicles per average Sunday in August	
			1930	1933	1930	1933
341C	Weymouth	18-128	8,932	10,008	10,596	10,588
341D	Weymouth	18-58	—	5,336	—	5,646
355	Wrentham	11-140	12,779	5,688	19,315	9,085
355A	Wrentham	11-150	9,495	3,950	13,753	4,776
355B	Wrentham	142	—	—	—	—
DISTRICT 7						
1	Abington	102-123	7,404	8,083	8,781	10,979
1A	Abington	58-123	5,583	5,717	6,621	6,049
20	Barnstable	6-132	6,381	5,238	7,053	7,053
20A	Barnstable	6-49	7,369	6,355	12,092	11,215
20B	Barnstable	28-49	4,938	3,481	8,137	4,061
20C	Barnstable	28-130	3,194	2,856	5,262	3,197
20D	Barnstable	28	—	3,533	—	4,123
20E	Barnstable	28-132	—	4,667	—	5,596
20F	Barnstable	28	—	3,041	—	3,548
20G	Barnstable	28	—	3,875	—	4,521
36	Bourne	6-28	12,419	14,371	20,459	20,117
36A	Bourne	3-6	8,429	6,156	13,887	10,143
36B	Bourne	6	7,045	8,011	11,609	14,312
36C	Bourne	28	8,030	10,429	13,232	12,188
36D	Bourne	28	—	5,035	—	8,996
41	Brewster	6-24	4,022	3,204	4,529	3,768
42	Bridgewater	28	5,860	—	9,782	—
42A	Bridgewater	18-28	—	11,190	—	15,223
42B	Bridgewater	18-28	—	14,105	—	15,799
44	Brockton	123	—	—	—	—
44A	Brockton	28-37	10,306	12,476	17,599	15,619
44B	Brockton	28	8,973	9,951	13,981	17,609
44C	Brockton	28	—	5,365	—	9,494
44D	Brockton	27-28-123	—	23,418	—	41,440
44E	Brockton	27-28	—	18,981	—	33,590
52	Carver	101	—	1,702	—	2,979
52A	Carver	58-101	2,063	1,735	3,591	3,036
52B	Carver	58-101	2,113	2,106	3,633	3,929
55	Chatham	28	6,453	4,315	6,629	4,420
55A	Chatham	28	3,733	2,448	3,836	2,509
65	Cohasset	3A	—	12,782	—	20,457
76	Dennis	6-134	3,280	3,173	3,786	3,729
76A	Dennis	28-134	5,249	4,508	6,352	5,124
83	Duxbury	3A-14	4,189	3,419	6,289	4,781
85	E. Bridgewater	102-106	4,263	4,310	5,057	4,559
85A	E. Bridgewater	18-106	—	4,288	—	4,537
85B	E. Bridgewater	18	—	5,729	—	6,063
91	Edgartown	Edgartown Rd.	—	2,068	—	1,854
99	Falmouth	Vineyard Haven Rd.	7,041	5,684	11,602	6,632
99A	Falmouth	Locust and W. Main St.	—	6,315	—	7,368
122	Halifax	58-106	3,043	2,884	5,229	7,018
126	Hanover	3-123	6,565	8,031	10,069	10,502
126A	Hanover	3	8,509	7,546	13,049	9,868
126B	Hanover	3	—	8,911	—	11,651
127	Hanson	58	—	—	—	—
127A	Hanson	14-58	3,634	1,894	5,032	2,269
127B	Hanson	27-58	3,083	3,093	4,269	4,878
130	Harwich	24-28	6,341	3,855	5,489	3,950
130A	Harwich	29	—	4,829	—	4,950
135	Hingham	3A	17,061	18,882	24,168	30,147
135A	Hingham	3A	17,645	17,983	24,435	28,607
135B	Hingham	3-128	6,913	8,354	9,455	12,994
135C	Hingham	3A-128	—	7,004	—	11,212
135D	Hingham	Wash. Blvd.	—	—	—	—
135E	Hingham	Rockland St.	—	14,503	—	23,366
135F	Hingham	128	—	8,183	—	13,183
135G	Hingham	3A-128	—	7,339	—	11,946
135H	Hingham	—	—	—	—	—
142	Hull	Nantasket Ave.	—	—	—	—
149	Kingston	Bay St.	—	16,153	—	24,024
149A	Kingston	3-3A	6,109	5,921	10,475	10,059
149B	Kingston	3	—	—	—	—
149C	Kingston	27-106	3,153	3,209	5,484	5,429
150	Lakeville	3-106	—	7,810	—	13,205
150A	Lakeville	18-105	1,525	1,649	2,652	2,901
150B	Lakeville	18-105	—	2,147	—	3,779
173	Marion	18-101	—	3,786	—	6,663
175	Marshfield	6-105	7,534	5,762	12,588	8,258
175A	Marshfield	3A	—	—	—	—
175B	Marshfield	3A	—	5,556	—	7,965
176	Mashpee	3A	7,635	6,779	11,451	9,719
		28	2,713	1,339	4,689	2,611

Sta. No.	Town	Routes	Number of Vehicles per average Day in August		Number of Vehicles per average Sunday in August	
			1930	1933	1930	1933
176A	Mashpee	130	—	865	—	1,009
177	Mattapoisett	6	—	6,440	—	9,378
186	Middleboro	28-101	9,182	—	15,807	—
186A	Middleboro	28	5,754	—	9,886	—
186B	Middleboro					
186C	Middleboro	28-105	—	10,410	—	16,555
186D	Middleboro	101-105	—	7,739	—	13,889
186E	Middleboro	28-101	—	9,436	—	17,122
223	Norwell	3-128	8,732	10,949	13,391	23,306
228	Orleans	6-28	4,221	3,697	4,586	4,148
228A	Orleans	6	—	5,002	—	5,881
228B	Orleans	28	—	2,622	—	2,686
235	Pembroke	3-14	4,748	4,985	8,768	9,069
235A	Pembroke	3-14	5,461	5,901	10,128	10,736
243	Plymouth	3				
243A	Plymouth	3	3,524	3,990	6,045	7,129
243B	Plymouth	3-101	—	12,707	—	15,986
244	Plympton	58-106	2,365	—	4,061	—
244A	Plympton	58	—	1,062	—	1,522
247	Provincetown	6	3,801	3,096	4,132	3,785
		Ran Point Rd.				
247A	Provincetown	Prov. Land Rd.	—	1,895	—	2,165
256	Rockland	123	5,483	6,271	7,591	7,512
256A	Rockland	123	4,698	4,680	6,506	5,605
266	Sandwich	130	6,789	1,981	11,186	3,535
266A	Sandwich	6-130	—	7,556	—	13,501
266B	Sandwich	6	—	7,604	—	13,587
269	Scituate	3A	7,154	5,739	10,736	9,702
269A	Scituate	3A-123	5,277	5,217	7,905	8,529
315	Wareham	6	7,663	6,609	13,166	9,875
315A	Wareham	6-28	11,334	11,585	19,474	20,793
315B	Wareham	28-58	6,813	8,521	11,704	12,819
315C	Wareham	6-28	10,723	11,999	18,102	16,202
315D	Wareham	6	—	5,451	—	8,148
315E	Wareham	28	—	7,373	—	14,417
322	Wellfleet	6	—	3,711	—	4,455
328	W. Bridgewater	28-106	8,123	10,296	13,558	10,703
		W. Tisbury Central				
339	W. Tisbury	W. Tisbury East	—	907	—	880
343	Whitman	18-27	7,363	7,794	8,722	8,247
343A	Whitman	27	—	4,003	—	4,237
356	Yarmouth	28	12,244	7,533	21,161	8,781
356A	Yarmouth	28	—	7,016	—	9,638

ROADSIDE MAINTENANCE AND DEVELOPMENT

Roadside maintenance as related to the care and planting of trees and other growth on the areas within the highway layouts and adjacent to the traveled surface of State highways has been one of the activities of this Department for over thirty-seven years. This work has been developed more rapidly during recent years because it has become recognized that systematic and intelligent control and development of all features of the roadside conditions are of value not only from the point of view of attractiveness in appearance but as a safety factor as well.

The Department has organized and trained a group of men under competent supervision to have charge of this work, not only for the removal and trimming of trees, brush and undesirable growth, but also for the selection and planting of new growth suitable for the locations. The removal of trees and brush that may obstruct vision at curves, intersections or other points on the highway is done to insure that operating conditions shall be as safe as possible and unnecessary growth is cleared out in order to afford attractive vistas at many scenic locations. For the protection of the roadside trees the Department has maintained a corps of inspectors to supervise the trimming that may be necessary for the construction of light and power transmission lines. In connection with this work a Nursery is maintained at Sudbury where most of the trees and shrubs for use on the highways of Massachusetts are grown and made available for use by the Department. Strict supervision of the tree trimming by the Public Service Corporations is maintained, thus preserving the natural beauty of our roadsides as much as possible and

still allowing the Public Service Corporations to extend their services.

During the year 1,224 trees were planted, making a total for the past twenty-nine years of 64,884 trees planted; also 402 vines, 120 evergreens and 376 pines were set out.

SIDEWALK CONSTRUCTION ON STATE HIGHWAYS

Under Chapter 439 of the Acts of 1931, the Department constructed one sidewalk during the year in the city of North Adams. It consisted of 1,933 lineal feet of granolithic construction and 265 lineal feet of gravel construction and the City has agreed to maintain the sidewalk.

FEDERAL AID IN CONSTRUCTING HIGHWAYS

Statements as to the acts of Congress and of the Massachusetts Legislature with respect to co-operation between the United States and the states in the construction and maintenance of highways, including the Federal Highway Act approved November 9, 1921, may be found in the annual reports of this Department for the years 1920-1927, inc.

The following Federal aid allotments have thus far been made to Massachusetts:—

For fiscal year ending June 30, 1917	\$73,850 94
For fiscal year ending June 30, 1918	147,701 90
For fiscal year ending June 30, 1919	958,145 15
For fiscal year ending June 30, 1920	1,400,078 27
For fiscal year ending June 30, 1921	1,472,788 83
For fiscal year ending June 30, 1922	1,096,176 04
For fiscal year ending June 30, 1923	730,784 03
For fiscal year ending June 30, 1924	950,448 62
For fiscal year ending June 30, 1925	1,089,806 22
For fiscal year ending June 30, 1926	1,099,891 00
For fiscal year ending June 30, 1927	1,089,055 00
For fiscal year ending June 30, 1928	1,089,100 00
For fiscal year ending June 30, 1929	1,088,808 00
For fiscal year ending June 30, 1930	1,090,077 00
For fiscal year ending June 30, 1931	1,821,569 00
For fiscal year ending June 30, 1932	1,813,916 00
For fiscal year ending June 30, 1933	1,511,244 00
Total	<u>\$18,523,440 00</u>

In addition to the above the following allotments were made. In 1931 an allotment was made from "Federal Emergency Advance Funds" amounting to \$1,141,460. In 1932 an allotment of \$1,716,612. was made from the Federal Emergency Relief and Construction Act. In 1933 an allotment of \$6,597,100. was made from "National Recovery Funds".

The total amount received by Massachusetts from 1916 to November 30, 1933 is \$20,481,723.23. This amount includes all types of Federal Aid.

Projects to the number of 32 have been prepared in addition to those shown in the report of the Department of Public Works for 1932. The total mileage included in the various Federal aid road projects in this state, from the commencement of work of this character to November 30, 1933, inclusive, is 1016.015. The mileage in various counties is:—

Barnstable, 97.989 miles	Hampden, 56.731 miles
Berkshire, 121.022 miles	Hampshire, 54.300 miles
Bristol, 86.493 miles	Middlesex, 96.259 miles
Dukes, 3.117 miles	Norfolk, 86.845 miles
Essex, 77.705 miles	Plymouth, 108.084 miles
Franklin, 48.691 miles	Suffolk, 2.590 miles
	Worcester, 176.189 miles

STATEMENT OF FEDERAL AID ROAD PROJECTS TO NOV. 30, 1933

No.	Town or City	Miles	Amount of Federal Funds Involved	Amount Rec'd.
1	*Acushnet-Fairhaven	2.182	21,820 00	21,820 00
2	*Hanover	2.708	19,480 36	19,480.36
R-2	*Hanover	2.615	39,225 00	39,225 00
3	*Malden-Melrose Saugus	1.162	11,620 00	11,620 00
4	*Danvers	1.325	15,460 22	15,460 22
5	*Windsor-Dalton	3.240	64,800 00	64,800 00
6	*Sandwich	1.818	10,678 02	10,678 02
7	*Cummington	4.659	86,816 53	86,816 53
8	*Athol-Petersham	7.016	90,074 51	90,074 51
9	*Saugus	3.122	65,472 27	65,472 27
10	*Braintree	2.420	40,554 80	40,554 80
11	*Concord-Acton-Littleton	4.849	77,600 87	77,600 87
12	*Ipswich	2.173	21,851 50	21,851 50
E-12	*Ipswich	2.081	42,333 08	42,333 08
13	*Littleton-Groton	6.450	130,504 25	130,504 25
14	*Barnstable	3.331	22,687 65	22,687 65
15	*Norwell-Hingham	4.380	59,501 75	59,501 75
17	*Lynnfield-Peabody	1.794	35,880 00	35,880 00
18	*Lunenburg	2.797	55,940 00	55,940 00
19	*Taunton	2.116	42,320 00	42,320 00
20	*Tewksbury	2.909	35,211 82	35,211 82
21	*Pittsfield-Hancock	3.637	72,483 32	72,483 32
E-21A	*Hancock-Pittsfield	2.773	125,407 10	104,392 50
E-21B	*Hancock	1.098	72,901 15	43,898 00
22	*Greenfield-Bernardston	6.426	88,270 71	88,270 71
23	*Great Barrington	2.123	31,348 89	31,348 89
24	*Seekonk	2.756	19,527 75	19,527 75
R-24	*Seekonk	2.756	41,340 00	41,340 00
25	*Billerica	0.578	38,389 77	38,389 77
26	*Greenfield-Shelburne:			
	Section 1	5.134	102,680 00	102,680 00
	Section 2	4.401	88,020 00	88,020 00
27	*Hamilton-Wenham	1.766	20,207 27	20,207 27
28	*Lanesborough:			
	Section A	0.990	19,780 00	19,780 00
	Section B	2.690	53,800 00	53,800 00
29	*Ware	2.626	46,557 55	46,557 55
30	*Brimfield	4.206	84,120 00	84,120 00
31	*Danvers-Peabody	1.107	22,140 00	22,140 00
32	*Huntington	3.078	97,163 48	97,163 48
33	*Acton-Littleton:			
	Section A	2.182	43,640 00	43,640 00
	Section B	1.624	25,847 25	25,847 25
34	*Dudley	1.359	27,180 00	27,180 00
35	*Haverhill-Methuen	4.544	90,880 00	90,880 00
36	*Eastham-Wellfleet-Provincetown:			
	Section A	10.690	91,347 85	91,347 85
	Section B	6.548	75,935.60	75,935.60
	Section C	8.043	86,130 51	86,130 51
37	*Egremont	1.164	20,579 07	20,579 07
38	*Peabody-Danvers	2.827	56,540 00	56,540 00
39	*Williamstown-New Ashford-Lanesborough:			
	Section A	0.020	9,123 64	9,123 64
	Section B	3.323	65,980 00	65,980 00
	Section C	4.590	68,850 00	68,850 00
40	*East Brookfield	1.011	20,220 00	20,220 00
41	*Ashby	1.250	22,141 03	22,141 03
42	*Washington	2.291	45,820 00	45,820 00
43	*Leicester	0.638	12,760 00	12,760 00
44	*Goshen-Cummington-Windsor:			
	Section A	1.494	29,880 00	29,880 00
	Section B	3.323	65,980 00	65,980 00
	Section C	3.780	82,915 42	82,915 42
	Section D	3.022	54,874 60	54,874 60
45	*Palmer:			
	Sections A and C	1.795	35,900 00	35,900 00
46	*Upton-Hopedale:			
	Section A	1.672	33,440 00	33,440 00
47	*Barre-Oakham	1.737	37,200 75	37,200 75
50	*Lunenburg	1.763	35,260 00	35,260 00
	*Mendon-Uxbridge:			
51	Section A	1.959	39,180 00	39,180 00
	Section B	2.504	50,080 00	50,080 00
52	*Oxford	3.208	64,160 00	64,160 00
53	*East Brookfield-Spencer-West Brookfield:			
	Section A	0.890	17,800 00	17,800 00
	Section B	1.682	33,640 00	33,640 00

*Work completed.

No.	Town or City	Miles	Amount of Federal Funds Involved	Amount Rec'd.
54	*Leicester:			
	Section A	0.829	16,580 00	16,580 00
	Section B	2.691	53,820 00	53,820 00
55	*Quincy	0.549	10,980 00	10,980 00
56	*Stoughton	2.141	42,820 00	42,820 00
NRH56	†Stoughton	2.188	117,194 77	
NRH57	†Winchester	1.031	25,346 42	
NRM57	†Woburn	1.995	28,240 19	
NRH57B	†Winchester	0.885	29,680 86	
57	*Winchester-Woburn	3.042	59,131 31	59,131 31
58	*Littleton	1.345	26,900 00	26,900 00
59	*Egremont	0.784	15,678 18	15,678 18
60	*Middlton-Danvers	1.907	38,224 70	38,224 70
61	*Winchendon-Templeton	5.393	106,117 44	106,117 44
62	*Danvers-Topsfield:			
	Section A	3.009	60,180 00	60,180 00
	Section B	3.513	76,959 91	76,959 91
63	*Essex-Ipswich	4.489	89,780 00	89,780 00
64	*Norwood	1.065	21,300 00	21,300 00
65	*North Adams	1.638	32,760 00	32,760 00
69	*Haverhill	2.657	53,049 24	53,049 24
70	*Palmer	2.550	51,000 00	51,000 00
71	*Wrentham	1.846	36,940 00	36,940 00
72	*Walpole	3.078	61,560 00	61,560 00
73	*Southwick	6.879	111,757 95	111,757 95
74	*Beckett	0.156	13,095 66	13,095 66
R74	*Becket	0.189	10,290 54	10,290 54
75	*Topsfield-Ipswich-Rowley-Newbury:			
	Section A	10.207	207,163 37	207,163 37
76	*Norfolk	1.447	28,940 00	28,940 00
77	*Merrimac	1.020	20,397 73	20,397 73
78	*Burlington	3.761	75,220 00	75,220 00
NRH78	†Burlington	3.760	45,171 06	
79	*Great Barrington	2.991	59,820 00	59,820 00
79B	*Great Barrington	0.028	8,522 99	8,522 99
80	*Lee:			
	Section A	0.909	18,180 00	18,180 00
	Section B	0.283	4,245 00	4,245 00
83	*Pembroke	2.121	31,815 00	31,815 00
84	*Sterling-West Boylston	3.491	51,974 04	51,974 04
85	*Dalton (Hinsdale Road):			
	Section A	1.033	20,660 00	20,660 00
	Section B	0.066	7,120 50	7,120 50
86	*Gay Head	3.117	40,783 51	40,783 51
87	*Dalton (Windsor Road):			
	Section A	1.056	21,120 00	21,120 00
	Section B	0.038	5,429 50	5,429 50
88	*Erving	4.537	67,485 00	67,485 00
89	*Easton:			
	Sections A and B	3.540	70,800 00	70,800 00
	Section C	3.840	62,400 00	62,400 00
NRH89A	†Easton	1.553	40,558 82	
NRH89C	†Easton	1.392	40,851 25	
90	*Brookfield-E. Brookfield	1.227	25,324 95	25,324 95
91	*Lowell	0.977	19,537 87	19,537 87
93	*Wilbraham	0.208	67,506 06	67,506 06
94	*Otis-Sandisfield	7.565	122,931 25	122,931 25
95	*Westfield	0.148	12,677 08	12,677 08
R95	*Westfield	0.148	36,944 88	36,944 88
96	*Rochester-Wareham	4.031	68,979 93	68,979 93
98	*Sheffield	3.052	61,133 85	61,133 85
99	*Gloucester	1.191	19,353 75	19,353 75
100	*Rutland	3.640	59,150 00	59,150 00
101A	*Hinsdale	0.297	4,455 00	4,455 00
101B	*Hinsdale	0.858	24,116 51	24,116 51
102A	*Plainville-Wrentham	3.254	48,810 00	48,810 00
103	*Adams	0.568	9,230 00	9,230 00
104	*Milton	3.534	70,680 00	70,680 00
105	*Rehoboth	1.438	28,760 00	28,760 00
106	*Bourne	0.522	35,002 00	35,002 00
R106	*Bourne-Falmouth	6.458	66,412 31	35,523 07
107	*Southampton	2.203	44,060 00	44,060 00
108	*Lakeville-Freetown	4.583	71,706 11	71,706 11
109	*West Brookfield	0.066	10,283 73	10,283 73
110	*Middleborough-Bridgewater	0.109	24,580 87	24,580 87
111	*Braintree	0.371	7,200 00	7,200 00
112	*No. Attleborough-Attleboro	3.278	65,560 00	65,560 00
113	*Swansea	0.692	11,245 00	11,245 00
113B	*Swansea-Somerset	3.503	64,439 74	64,439 74
114	*Lenox	2.408	39,130 00	39,130 00

*Work completed.

†Work underway.

No.	Town or City	Miles	Amount of Federal Funds Involved	Amount Rec'd.
115	*Plymouth	1.680	25,522 53	25,522 53
116	*Norwood-Walpole	2.453	40,878 91	40,878 91
117A	*Chelmsford	1.377	27,540 00	27,540 00
117B	*Chelmsford-Tyngsboro	4.625	89,713 81	89,713 81
118A	*Brookfield	0.620	12,400 00	12,400 00
118B	*Brookfield	0.251	3,765 00	3,765 00
119A	*Essex	0.406	8,120 00	8,120 00
120A	*Lakeville	4.789	71,835 00	71,835 00
120B	*Berkeley	0.864	12,960 00	12,960 00
120C	*Taunton-Berkeley	2.758	41,370 00	41,370 00
120D	*Taunton	0.862	12,930 00	12,930 00
121A	*Abington	0.947	17,887 34	17,887 34
121B	*Bridgewater	0.113	16,568 31	16,568 31
121C	*Weymouth	2.720	40,800 00	40,800 00
121D	*E. Bridgewater-Whitman	2.000	30,000 00	30,000 00
121E	*Abington	1.088	14,770 42	14,770 42
122A	*Barnstable	0.066	18,711 51	18,711 51
122B	*Barnstable-Mashpee	2.482	36,349 09	36,349 09
122C	*Falmouth-Mashpee	8.137	114,307 02	114,307 02
122D	*Barnstable	5.643	161,431 21	161,431 21
122E	*Barnstable	1.621	20,394 77	20,394 77
E122F	*Barnstable-Yarmouth	2.395	79,820 96	56,106 31
123A	*Southampton	2.461	47,155 67	47,155 67
124A	*Wayland	0.189	30,296 68	30,296 68
124B	*Marlborough	1.626	24,390 00	24,390 00
124C	*Weston	1.004	147,745 22	147,745 22
125A	*Wareham	3.086	68,316 11	68,316 11
125B	*Wareham	2.761	41,415 00	41,415 00
127A	*Holyoke	4.136	62,040 00	62,040 00
127B	*Easthampton-Northampton	1.762	74,258 69	74,258 69
128A	*Hinsdale	0.066	8,598 63	8,598 63
128B	*Hinsdale	0.952	14,280 00	14,280 00
129A	*Dighton-Somerset	3.465	51,975 00	51,975 00
129B	*Somerset	4.340	65,511 29	65,511 29
130A	*Auburn-Oxford	4.208	63,120 00	63,120 00
131A	*Wilbraham	0.530	7,950 00	7,950 00
131B	*Wilbraham	1.012	15,180 00	15,180 00
NRM131C	†Springfield (Force Acct.)	3.426	190,947 61	
132A	*Duxbury-Kingston	2.123	31,845 00	31,845 00
133A	*North Andover	0.615	9,225 00	9,225 00
133B	*North Andover	0.771	11,565 00	11,565 00
133C	*North Andover	2.670	35,085 00	35,085 00
134A	*Barre	1.217	18,255 00	18,255 00
134B	*Barre	1.261	18,915 00	18,915 00
134C	*Barre	1.617	24,255 00	24,255 00
E134D	†Oakham-Rutland	3.493	60,604 79	49,320 52
135A	*Russell	0.557	13,919.60	13,919 60
135B	*Westfield-Russell	3.607	54,075 00	54,075 00
135C	*Russell	3.291	53,059 55	53,059 55
135D	*Russell-Huntington	3.670	55,050 00	55,050 00
136A	*Agawam	1.331	19,965 00	19,965 00
136B	*Agawam	1.515	22,725 00	22,725 00
136C	*Agawam	1.000	15,000 00	15,000 00
137A	*Sheffield	0.170	22,710 05	22,710 05
137C	*Sheffield	1.532	22,980 00	22,980 00
138A	*Chester	0.097	10,818 36	10,818 36
138B	*Chester	4.250	92,391 53	92,391 53
NRH138B	†Chester	0.307	52,686 97	
138C	*Becket	2.742	64,963 68	64,963 68
139A	*Brimfield	0.103	6,075 05	6,075 05
139B	*Brimfield	4.778	68,916 18	68,916 18
140A	*Lenox-Lee	3.519	52,785 00	52,785 00
140B	*Lee	0.057	22,620 13	26,620 13
141A	*Williamsburg	0.211	8,880 65	8,880 65
141B	*Goshen-Williamsburg	5.042	93,547 40	93,547 40
141C	*Northampton-Williamsburg	4.146	62,190 00	62,190 00
142A	*Fitchburg-Westminster	3.960	69,171 34	69,171 34
142B	*Gardner-Westminster	3.699	52,316 73	52,316 73
142C	*Gardner-Templeton	4.174	62,610 00	62,610 00
143	*Fairhaven-Mattapoisett	3.245	52,079 86	52,079 86
144A	*Canton-Stoughton	4.306	64,436 20	64,436 20
145A	*Ashland-Holliston	3.330	34,645 01	34,645 01
146A	*Paxton	1.783	26,745 00	26,745 00
146B	*Paxton-Worcester	4.930	73,950 00	73,950 00
147A	*Lenox-Pittsfield	2.349	35,235 00	35,235 00
148A	*Raynham	1.657	24,855 00	24,855 00
148B	*Raynham-Taunton	2.861	42,915 00	42,915 00
149A	*Middleborough	5.586	83,790 00	83,790 00
149B	*Middleborough	0.831	12,465 00	12,465 00

*Work completed.

†Work underway.

No.	Town or City	Miles	Amount of Federal Funds Involved	Amount Rec'd.
150A	*Littleton-Westford	1.985	29,775 00	29,775 00
150B	*Westford	2.660	39,900 00	39,900 00
151A and B	*Swansea-Somerset	0.464	89,138 06	89,138 06
152A	*Dartmouth	1.401	21,015 00	21,015 00
152B	*Dartmouth	2.858	42,870 00	42,870 00
152C	*Westport	4.634	69,510 00	69,510 00
153A	*Southampton-Easthampton	1.410	21,150 00	21,150 00
154A	*Sturbridge	2.503	37,545 00	37,545 00
155A	*West Springfield	0.549	8,235 00	8,235 00
155B	*Westfield-W. Springfield	2.348	103,968 51	103,968 51
156A	*Orange	1.058	15,870 00	15,870 00
156B	*Orange	2.607	39,105 00	39,105 00
156C	*Athol-Orange	1.544	24,606 61	24,606 61
157A	*Sandisfield-Tolland	0.644	34,803 50	34,803 50
R157A	*Sandisfield-Tolland	0.644	5,107 62	5,107 62
157B	*Sandisfield	0.473	32,037 28	32,037 28
157C	*Sandisfield-Tolland	3.038	45,570 00	45,570 00
157D	*Sandisfield	0.219	13,641 74	13,641 74
158A	*Dalton	0.430	22,087 67	22,087 67
159A	*Seekonk-Rehoboth-Swansea	1.899	49,876 52	49,876 52
159B	*Seekonk	2.251	33,765 00	33,765 00
159C	*Swansea	2.767	41,505 00	41,505 00
160A	*Lenox-Lee-Stockbridge	5.453	81,795 00	81,795 00
161A	*Brockton-W. Bridgewater	3.823	57,345 00	57,345 00
161B	*Avon-Brockton	2.201	33,015 00	33,015 00
162A	*Holliston	3.315	49,725 00	49,725 00
162B	*Milford	1.790	26,850 00	26,850 00
163A	*Amherst	0.052	3,787 09	3,787 09
163B	*Amherst	2.100	31,500 00	31,500 00
164A	*Westminster-Winchendon	0.750	42,931 27	42,931 27
164B	*Westminster-Ashburnham	3.607	54,105 00	54,105 00
164C	*Ashburnham	3.776	56,640 00	56,640 00
164D	*Winchendon	2.826	42,390 00	42,390 00
165A	*Winchendon	2.460	36,900 00	36,900 00
166	*Becket-Otis	6.043	99,077 00	99,077 00
168A	*Deerfield	3.043	45,645 00	45,645 00
169A	*Merrimac-Amesbury	3.397	50,955 00	50,955 00
E170A	Cohasset-Hingham	3.151	255,725 40	244,035 70
E170B	*Cohasset-Scituate	5.808	193,455 25	168,327 49
NRM170C	†Quincy-Weymouth (Temp. Bridge Only)	0.521	90,463 01	
171A	*Chelmsford	1.536	23,040 00	23,040 00
172A	*Leominster-Sterling	2.718	40,770 00	40,770 00
NRH172B	†Sterling-W. Boylston	4.337	192,781 43	
173A	*Cheshire	4.377	74,965 81	74,965 81
173B	*Lanesboro	1.742	26,130 00	26,130 00
NRH173C	†Lanesboro	0.347	17,983 98	
NRM173D	†Pittsfield	1.462	53,896 49	
174A	*Marshfield	4.533	67,995 00	67,995 00
NRH174B	†Scituate-Marshfield	1.168	150,757 25	
175A	*Sandwich	0.217	22,181 26	22,181 26
175B	*Orleans	1.904	23,601 55	23,601 55
175C	*Barnstable	0.927	13,905 00	13,905 00
175D	*Sandwich	2.364	35,460 00	35,460 00
175E	*Brewster-Orleans	7.858	106,314 45	106,314 45
176A	*Plymouth	5.032	70,543 35	70,543 35
176B	*Plymouth-Bourne	2.948	44,220 00	44,220 00
177A	*Chatham	3.964	48,588 18	48,588 18
177B	*Orleans	1.802	25,838 02	25,838 02
177C	*Dennis	3.219	38,734 30	38,734 30
E177D	*Yarmouth	4.818	110,106 38	95,801 01
178A	*Chelmsford	1.262	18,930 00	18,930 00
179A	*Falmouth	3.394	50,910 00	50,910 00
180A	*Franklin-Wrentham	3.125	46,875 00	46,875 00
180B	*Bellingham-Franklin	3.889	58,335 00	58,335 00
181A	*Florida-North Adams	2.818	42,270 00	42,270 00
181B	*Florida	2.736	41,040 00	41,040 00
181C	*No. Adams-Clarksburg	3.362	50,430 00	50,430 00
181D	*Florida-Savoy	3.702	55,530 00	55,530 00
182A	*Lunenburg	1.312	19,680 00	19,680 00
183A	*Amesbury-Salisbury	1.922	28,830 00	28,830 00
183B	*Amesbury	1.329	45,345 32	45,345 32
184A	*Charlton	2.848	42,720 00	42,720 00
NRH184A	†Charlton	2.848	67,893 41	
184B	*Charlton-Sturbridge	5.623	84,345 00	84,345 00
NRH184C	†Charlton-Oxford	2.609	48,936 52	
184D	*Oxford	0.906	21,111 59	21,111 59
185A	*Buckland	1.245	18,675 00	18,675 00
185B	*Charlemont	2.433	35,640 00	35,640 00
185C	*Charlemont	0.421	34,244 36	34,244 36

*Work completed.

†Work underway.

No.	Town or City	Miles	Amount of Federal Funds Involved	Amount Rec'd.
186	*Salisbury	2.405	36,075 00	36,075 00
187A	*Bellingham	1.225	18,375 00	18,375 00
187B	*Hopedale-Mendon-Bellingham	2.502	34,650 00	34,650 00
188A	*Townsend	3.813	57,195 00	57,195 00
188B	*Pepperell-Groton	3.368	50,520 00	50,520 00
188C	*Groton-Pepperell	1.627	52,993 57	52,993 57
188D	*Townsend	0.061	17,849 72	17,849 72
188E	*Townsend	0.009	2,108 03	2,108 03
NRH188F	†Ashby-Townsend	4.023	133,967 50	
189A	*Marion-Wareham	0.582	78,792 57	78,792 57
189B	*Mattapoisett	1.804	27,060 00	27,060 00
189C	*Marion	4.554	68,310 00	68,310 00
189D	*Wareham	1.344	20,160 00	20,160 00
NRH189E	†Mattapoisett	1.583	69,419 79	
NRH189F	†Wareham	1.556	57,224 03	
190A	*Becket	2.254	33,810 00	33,810 00
190B	*Hinsdale	0.307	29,570 45	29,570.45
191A	*Falmouth	5.896	81,094 43	81,094 43
191B	*Falmouth	1.752	21,280 00	26,280 00
192A	*Groveland	1.643	24,645 00	24,645 00
192B	*Newburyport	1.745	26,175 00	26,175 00
193A	*Hadley	1.985	25,821 78	25,821 78
193B	*Hadley	2.662	26,852 35	26,852 35
194A	*Athol-Phillipston-Templeton	4.738	71,070 00	71,070 00
NRH194B	†Templeton	3.002	72,439 89	
195A	*Mansfield-Norton	0.960	17,862 40	17,862 40
195B	*Mansfield-Norton	2.617	39,255 00	39,255 00
195C	*Foxborough-Wrentham	0.927	23,175 00	23,175 00
196A	*Millbury-Grafton	4.440	66,600 00	66,600 00
197	*Plymouth	6.543	96,288 19	96,288 19
198A	*Milford-Hopedale-Upton	4.418	66,270 00	66,270 00
199A	*Newbury	0.303	127,124 34	127,124 34
199B	*Newbury-Rowley	4.437	173,737 72	173,737 72
NRH199C	†Newbury	3.047	90,975 44	
200A	*Rehoboth	1.875	28,125 00	28,125 00
200B	*Taunton-Dighton-Rehoboth	5.690	86,868 07	86,868 07
201	*Wilbraham	1.530	22,950 00	22,950 00
202A	*Hanover-Pembroke	2.061	44,462 11	44,462 11
202B	*Duxbury-Kingston-Pembroke	6.164	92,460 00	92,460 00
203	*Natick-Wellesley	2.066	30,990 00	30,990 00
204	*Erving	3.214	48,210 00	48,210 00
205	*Dalton	0.913	22,152 43	22,152 43
206A	*Billerica	1.898	35,399 86	35,399 86
206B	*Billerica	0.978	14,670 00	14,670 00
206C	*Billerica-Chelmsford	2.874	40,148 95	40,148 95
207A	*Bridgewater-Middleboro	10.474	173,628 65	173,628 65
208A	*Weston	0.186	39,270 35	39,270 35
208B	*Weston	1.224	96,576 94	96,576 94
209A	*Milton-Quincy-Randolph	3.315	39,725 00	49,725 00
210A	*Becket-Lee	7.192	107,880 00	107,880 00
210B	*Becket	2.886	43,290 00	43,290 00
211A	*Northborough-Shrewsbury-Southborough	11.272	391,333 56	391,333 56
211B	*Framingham-Southboro	4.398	82,947 44	82,947 44
211C	*Framingham-Natick	4.061	100,200 00	94,244 62
E211D	*Wellesley	2.272	240,636 35	235,595 86
E211E	*Wellesley	1.108	376,899 31	370,192 46
212	*North Attleborough	2.123	45,332 76	45,332 76
213	*Attleborough	1.455	58,131 53	58,131 53
214A	*Tyngsborough	0.540	209,285 64	209,285 64
215A	*Palmer-Monson	0.606	79,452 36	79,452 36
216A	*Dedham	0.738	10,935 00	10,935 00
217	*Chester-Huntington	3.781	61,090 38	61,090 38
218	*Canton-Dedham-Westwood	3.947	202,012 06	129,297 55
219A	*Marlborough-Northboro	5.109	416,409 15	416,409 15
219B	*Northboro-Shrewsbury	2.578	56,157 49	56,157 49
220A	*Foxborough-Plainville-Wrentham	5.722	372,032 25	372,032 25
221	*Egremont	2.135	53,375 00	53,375 00
222	*Deerfield-Greenfield	0.337	127,099 76	127,099 76
223A	*Williamstown	1.789	38,956 97	38,956 97
224A	*Andover- No. Reading-Reading	4.431	214,676 48	214,676 48
225A	*Erving	1.425	113,775 43	113,775 43
225B	*Gill-Greenfield	5.147	160,827 89	160,827 89
225C	*Erving-Gill	0.017	194,050 94	194,050 94
226A	*Auburn-Worcester	4.809	143,134 13	143,134 13
226B	*Millbury-Worcester	2.125	182,684 81	182,684 81
226C	*Shrewsbury-Worcester	3.015	89,151 11	69,128 91
227	*Foxborough-Sharon-Wrentham	4.314	161,995 10	161,995 10
228A	*Uxbridge	4.171	126,823 58	126,823 58
229A	*Dedham-Westwood-Needham	3.448	100,412 55	79,752 13
229B	*Needham-Wellesley	3.653	103,047 67	86,043 72
230A	*Salisbury	2.184	38,084 39	38,084 39

*Work completed.

†Work underway.

No.	Town or City	Miles	Amount of Federal Funds Involved	Amount Rec'd.
231A	*Sharon-Walpole-Norwood	5.458	142,791 40	142,791 40
231B	*Dedham-Westwood-Norwood	3.566	168,318 57	130,156 22
232A	*Littleton	0.420	32,130 37	32,130 37
233A	*Lakeville-Middleboro	4.112	124,205 92	124,205 92
E235A	*Wellesley	1.360	125,962 33	125,962 33
NRM235B	†Brookline-Newton	1.089	210,478 94	
E236	*Lakeville-Middleborough-Taunton-Rayn- ham	6.344	219,779 15	123,134 70
E237A	*Oxford-Webster	3.375	127,719 68	85,089 53
238A	*Granby	3.154	37,134 33	37,134 33
E238B	*Belchertown	2.812	49,582 76	49,582 76
240A	*Worcester-W. Boylston	2.229	32,937 27	32,937 27
NRH240B	†West Boylston	0.594	15,630 28	
NRM241A	†E. Boston-Revere	2.294	713,586 36	
NRM242A	†Arlington-Belmont-Cambridge	1.557	597,218 35	
NRH243A	†Amesbury	0.795	44,977 46	
NRM244A	†Boston (Hyde Park)	0.296	39,246 79	
NRS245A	†Huntington	5.313	141,724 44	
NRS246	†Conway-Deerfield	6.193	225,494 28	32,408 40
Grand Totals		1016.015	\$24,547,747 91	\$20,481,723.23

STATEMENT OF FEDERAL EMERGENCY ADVANCE FUNDS

No.	Town or City	Amount of Federal Aid Involved	Amount Rec'd
122D	*Barnstable	\$116,571 15	\$116,571 15
124C	*Weston	132,685 22	132,685 22
188C	*Groton-Pepperell	9,516 49	9,516 49
199B	*Newbury-Rowley	62,185 37	62,185 37
208B	*Weston	78,216 94	78,216 94
219A	*Marlborough-Northborough	329,743 37	399,743 37
220A	*Foxborough-Plainville-Wrentham	286,202 25	286,202 25
224A	*Andover-No. Reading-Reading	90,544 85	90,544 85
225A	*Erving	35,794 36	35,794 36
*Total		\$1,141,460 00	\$1,141,460 00

STATEMENT OF FEDERAL EMERGENCY RELIEF AND CONSTRUCTION ACT

		Reg. Fed. Aid	Emerg. Const. Funds
E-12	*Ipswich	\$14,393 25	\$27,939 83
E-21A	*Hancock-Pittsfield	12,540 71	112,866 39
E-21B	*Hancock	10,935 17	61,965 98
E-122F	*Barnstable-Yarmouth	18,358 82	61,462 14
E-134D	†Oakham-Rutland	16,076 20	44,528 59
E-170A	*Cohasset-Hingham	30,687 05	225,038 35
E-170B	*Cohasset-Scituate	44,260 96	149,194 29
E-177D	*Yarmouth	28,968 14	81,138 24
E-211D	*Wellesley	37,516 72	203,119 63
E-211E	*Wellesley	64,803 13	312,096 18
E-235A	*Wellesley	34,009 83	91,952 50
E-236	*Lakeville-Middleborough-Taunton-Raynham	7,981 34	211,797 81
E-237A	*Oxford-Webster	28,419 71	99,299 97
E-238B	*Belchertown	15,370 66	34,212 10
Totals		\$364,321 69	\$1,716,612 00
Total apportionment of Emerg. Const. Funds			1,716,612 00
Total obligated			1,716,612 00
Balance			\$ 0 00

STATEMENT OF NATIONAL RECOVERY FUNDS

No.	Town or City	Regular Fed. Aid Involved	National Re- covery Funds Involved
The Projects listed below are all "Underway".			
NRH56	Stoughton		\$117,194 77
NRH57	Winchester	\$12,600 00	12,746 42
NRM57	Woburn	14,100 00	14,140 19
NRH57B	Winchester	14,800 00	14,880 86
NRH78	Burlington	22,500 00	22,671 06
NRH89A	Easton		40,558 82
NRH89C	Easton		40,851 25
NRM131C	Springfield		190,947 61
NRH138B	Chester		52,686 97

*Work completed.

†Work underway.

No.	Town or City	Regular	National Re-
		Fed. Aid Involved	covery Funds Involved
NRM170C	Quincy-Weymouth (Temp. Bridge)		90,463 01
NRH172B	Sterling-W. Boylston	96,200 00	96,581 43
NRH173C	Lanesboro	8,000 00	9,983 98
NRM173D	Pittsfield	23,000 00	30,896 49
NRH174B	Scituate-Marshfield		150,757 25
NRH184A	Charlton	33,900 00	34,083 41
NRH184C	Charlton-Oxford	20,523 83	28,412 69
NRH188F	Ashby-Townsend	16,435 81	117,531 69
NRH189E	Mattapoisett	30,000 00	39,419 79
NRH189F	Wareham	25,000 00	82,224 03
NRH194B	Templeton	36,200 00	36,239 89
NRH199C	Newbury	44,000 00	46,975 44
NRM235B	Brookline-Newton		210,478 94
NRH240B	West Boylston	7,500 00	8,130 28
NRM241A	East Boston-Revere		713,586 36
NRM242A	Arlington-Belmont-Cambridge		597,218 35
NRH243A	Amesbury	17,984 24	26,993 22
NRM244A	Boston (Hyde Park)		39,246 79
NRS245A	Huntington		141,724 44
NRS246	Conway-Deerfield		225,494 28
Totals		\$422,743 88	\$3,183,119 71

Note:—Amount of National Recovery Funds received prior to Dec. 1, 1933=\$32,408.40 on project NRS 246, Conway-Deerfield.

	N R H.	N R M.	N R S.
Apportionment	\$1,932,950 00	\$4,136,382 00	\$527,768 00
Obligated	928,923.28	1,886,977 71	367,218 72
(As of Nov. 30, 1933) Balance	\$1,004,026.72	\$2,249,404 29	\$160,549 28

BRIDGES

During the year the Department has prepared designs and plans for, and done other work relating to, bridges throughout the Commonwealth. The various cities and towns, the localities therein, the character of the structure and other details are as follows:

BRIDGES AND STRUCTURES BUILT OR CONTRACTED FOR
Cities and Towns, Locality and Character of Structure.

- Alford — Green River Road over Green River; two 33-foot spans, reinforced concrete beam and slab.
- Ashland — Homer Avenue over Cold Spring Brook; one 17-foot span, reinforced concrete slab.
- Belchertown — Enfield Road over Jabish Brook; one 20-foot span, reinforced concrete slab.
- Belchertown — Parker Road over Jabish Brook; one 18-foot span, reinforced concrete slab.
- Charleton — Sturbridge Road over Cary Brook; one 15-foot span, reinforced concrete slab.
- Dartmouth — Potomska Road over Little River; two 18-foot spans, reinforced concrete beam and slab; one 63-foot span, steel girder.
- Dedham — Providence Turnpike over Circumferential Highway; one 83-foot span, steel deck girder with reinforced concrete floor.
- Dedham — Providence Turnpike over High Street; one 73-foot span, steel deck girder with reinforced concrete floor.
- Dedham — Providence Turnpike over Williams Street; one 64-foot span, steel deck girder with reinforced concrete floor.
- Dedham — Reinforced concrete mat and culvert at sites of High Street and Williams Street bridges.
- Dedham — Retaining walls at High Street and Williams Street bridges.
- Dighton — Taunton Road at Taunton line over Three Mile River; one 42-foot span, reinforced concrete beam and slab.
- Edgartown — At Oak Bluffs line over Sengekontacket Pond; sixteen 15-foot spans, timber trestle.
- Framingham — Concord Street over Sudbury River; two 28-foot spans, reinforced concrete beam and slab.
- Granby — Belchertown Road over Forge Pond Brook; one 15-foot span, reinforced concrete slab.

- Granville — Main Road at Tolland line over Hubbard River; one 26-foot span, reinforced concrete beam and slab.
- Hingham — Cohasset Road over tracks of New York, New Haven and Hartford Railroad, one 57-foot span, steel stringers with reinforced concrete floor.
- Hingham — Cohasset Road over Weir River; one 17-foot span, reinforced concrete slab.
- Hinsdale — Fassell Road over Branch of Housatonic River; one 20-foot span, reinforced concrete slab.
- Lee — West Park Street over Canal; one 23-foot span, reinforced concrete beam and slab.
- Lee — West Park Street over Housatonic River; two 60-foot spans, steel stringers with reinforced concrete floor.
- Middleborough — Cattle pass over Thompson Street; two 24-foot spans and one 40-foot span, reinforced concrete girder.
- Needham — Circumferential Highway under tracks of New York, New Haven and Hartford Railroad; one 75-foot span, steel girder.
- Needham — Highland Avenue over Circumferential Highway; one 63-foot span, concrete rigid frame.
- Newbury — Middle Street over Parker River; one 42-foot span, steel stringer.
- Newton — Retaining walls at Centre Street on Worcester Turnpike.
- Newton — Retaining walls at Quinobequin Road and Chestnut Street, on Worcester Turnpike.
- Newton — Retaining walls at Parker Street on Worcester Turnpike.
- Newton — Worcester Turnpike over Centre Street; one 93-foot span, three-hinged steel arch.
- Newton — Worcester Turnpike over Chestnut Street; one 50-foot span, reinforced concrete rigid frame.
- Newton — Worcester Turnpike over Quinobequin Road; one 51-foot span, reinforced concrete rigid frame.
- Newton — Worcester Turnpike over Sudbury Aqueduct; one 9-foot span, reinforced concrete saddle.
- Newton — Worcester Turnpike under Parker Street; two 30-foot spans, steel stringers with reinforced concrete floor.
- Pittsfield — State Highway over Phelps Brook; one 31-foot span, reinforced concrete beam and slab.
- Revere — Beach Street over tracks of Boston and Maine Railroad; two 35-foot spans, reinforced concrete beam and slab, one 62-foot span, steel girders.
- Savoy — Adams Road over Westfield River; one 24-foot span, reinforced concrete beam and slab.
- Savoy — Adams Road over Sturtevant Brook; one 24-foot span, reinforced concrete beam and slab.
- Wellesley — Worcester Turnpike over tracks of Boston and Albany Railroad, one 83-foot span, steel plate girder.
- Wellesley — Worcester Turnpike over Aqueduct at Station 11+91; one 6-foot span, reinforced concrete saddle.
- Wellesley — Worcester Turnpike over Weston Road; one 58-foot span, reinforced concrete rigid frame.
- Wellesley — Worcester Turnpike under Washington Street; two 75-foot spans, steel deck plate girders with reinforced concrete floor.
- Wellesley — Worcester Turnpike under Cedar Street; two 40-foot spans, steel stringers with reinforced concrete floor.
- Wellesley — Worcester Turnpike over Cliff Road; one 50-foot span, reinforced concrete rigid frame.
- Wellesley — Cliff Road over tracks of Boston & Albany Railroad; one 64-foot span, steel plate girder.

- Wellesley — Worcester Turnpike over Adequct at Station 11+91; one 6-foot span, reinforced concrete saddle.
- Wellesley — Worcester Turnpike over Rosemary Brook; one 12-foot span, reinforced concrete slab.
- Wellesley — Retaining walls at Washington Street bridge on Worcester Turnpike.
- Westfield — Main Street over Powder Mill Brook; twenty-two 18-foot spans and one 32-foot span, reinforced concrete pile trestle.
- Westfield — Main Street over Westfield River; two 50-foot spans, steel stringer and one 273-foot span through steel truss.
- Westwood — Providence Turnpike under tracks of New York, New Haven and Hartford Railroad; one 99-foot span, steel plate girder.
- Worthington — Huntington Road over Ward's Stream; one 8-foot span, reinforced concrete box culvert.

ALTERATIONS, REPAIRS AND EXTENSIONS TO BRIDGES AND STRUCTURES
MADE OR CONTRACTED FOR

- Billerica — At Wilmington line, Aqueduct bridge over Shawsheen River; extension to existing reinforced concrete arch, 21-foot span.
- Charlton — Southbridge Road over Cady Brook, Sta. 94; extension to reinforced concrete beam and slab, 17-foot span.
- Charlton — Southbridge Road over Cady Brook, Sta. 129; extension to reinforced concrete beam and slab, 20-foot span.
- Charlton — Southbridge Road over Cady Brook, Sta. 17; alteration of bridge fence.
- Dalton — Main Street over Housatonic River; steel bridge repainted.
- Egremont — Under Mountain Road over Guilder Brook; extension to reinforced concrete beam and slab, 24-foot span.
- Greenfield — At Montague line, Montague City Bridge over Connecticut River; repairs to trusses and roof.
- Hingham — Bridge at Otis and Summer Streets; repairs to existing concrete beams.
- Lee — Center Street bridge over Housatonic River; repainting steel.
- Needham — Greendale Avenue over tracks of New York, New Haven and Hartford Railroad; one 32-foot span, reinforced concrete arch extension.
- Newton — Worcester Turnpike over Charles River; extensions to two existing stone faced concrete arches; one 14-foot span and one 50-foot span.
- Newton — Worcester Turnpike over East Branch of Charles River; extension to stone faced concrete arch, 20-foot span.
- North Adams — Greylock Bridge over Hoosic River; repainting steel.
- Oakham — Athol Road over Brook; extension to reinforced concrete arch, 10-foot span.
- Oakham — Athol Road over Mill Pond; extension to reinforced concrete beam and slab, 24-foot span.
- Oxford — Charleston Road over French River; extension to reinforced concrete arch, 16-foot span.
- Pittsfield — Lebanon Avenue over West Branch Housatonic River; extension to reinforced concrete beam and slab, 30-foot span.
- Pittsfield — Hancock Road over Shaker Brook; extension to reinforced concrete beam and slab, 18-foot span.
- Pittsfield — Woodleigh Avenue over Brook; extension to reinforced concrete culvert, 8-foot span.
- Sandisfield — At Tolland line, State Line bridge over Farmington River; repainting steel.
- Sandisfield — Hanging Mountain bridge over Farmington River; repainting steel.
- Sheffield — Blodgett's bridge over Housatonic River; repainting steel.

- Shrewsbury — Boston Post Road over Brook; extension to reinforced concrete slab, 13-foot span.
- Southwick — South Longyard Road over Great Brook; extension to reinforced concrete slab, 11-foot span.
- Southwick — South Longyard Road over canal; extension to reinforced concrete slab, 8-foot span.
- Tewksbury — Main Street over Shawsheen River; extension to 2-span reinforced concrete beam and slab, 20-foot spans.
- Tyngsborough Bridge over Merrimack River and tracks of Boston & Maine Railroad; reinforced concrete hood over railroad tracks.
- Wareham — State highway over Weweantic River; extension to reinforced concrete beam and slab, 25-foot span.
- Wareham — State highway over Parker Mills Pond; extension to reinforced concrete beam and slab, 30-foot span.
- Worthington — Huntington Road over Little River; extension to reinforced concrete beam and slab, 28-foot span.
- Worthington — Huntington Road over Ward's Stream; extension to reinforced concrete beam and slab, 20-foot span.

CONTEMPLATED BRIDGES AND STRUCTURES

Plans, Studies or Estimates Made

Cities and Towns, Locality and Character of Structure.

- Arlington — Grade separation on Cambridge-Concord Highway at Pleasant Street.
- Attleboro — Washington Street over tracks of New York, New Haven and Hartford Railroad.
- Ayer — West Main Street over tracks of Boston and Maine Railroad.
- Belchertown — Cranby Road over tracks of Boston and Maine Railroad and tracks of Central Vermont Railroad. Bondsville Road over Reservoir Outlet, over canal, and over tracks of Boston and Maine Railroad.
- Boston — Viaduct over tracks of Midland Division of New York, New Haven and Hartford Railroad, Neponset River, and River Street connecting Neponset River Parkway with the proposed extension of Canterbury Street; grade separations on proposed Clarendon Hills Parkway at Hyde Park Avenue, over tracks of the New York, New Haven and Hartford Railroad, and Poplar Street. East Boston Tunnel Road over road and proposed tracks of Boston and Maine Railroad near Orient Heights. Grade separation at Huntington Avenue and the Riverway.
- Relocation of highway at Pauls Bridge over Neponset River.
- Brookline — Grade separation on Worcester Turnpike at Brookline Village and at Cypress Street.
- Cambridge — Traffic Circle at junction of Alewife Brook Parkway and Cambridge-Concord highway.
- Clarksburg — Extension to arch over Hoosic River.
- Cohasset — Proposed bridge over tracks of New York, New Haven and Hartford Railroad, near Black Rock Station.
- Colrain — Center bridge over East Branch of North River.
- Concord — Bridges on Cambridge-Concord highway over Concord River and over tracks of Boston and Maine Railroad.
- Conway — Bridges on Deerfield Road over Mill River.
- Dartmouth — At Westport Factory over Noquochoke Lake.
- Deerfield — Extensions to bridges on Conway Road over Mill River.
- Great Barrington — North Plain Road over Williams River.
- Hinsdale — Middlefield Road over Housatonic River.
- Lakeville — Taunton Road at Middleborough line over Poquay Trout Brook.

- Lawrence — Salem Turnpike over Shawsheen River.
 Lexington — Grade separation of proposed Cambridge-Concord highway and Waltham Street.
 Lincoln — South Great Road over tracks of Boston and Maine Railroad.
 Littleton — State highway over tracks of Boston and Maine Railroad.
 Lynn — Point of Pines bridge over Saugus River at the Revere line.
 Newbury — Newburyport Turnpike over tracks of Boston and Maine Railroad.
 Newton — Worcester Turnpike over Hammond Pond Parkway.
 Oxford — Webster Road under tracks of New York, New Haven and Hartford Railroad; Webster Road over Taft Brook.
 Pittsfield — Lebanon Avenue over tracks of Boston and Albany Railroad and over Shaker Brook.
 Quincy — Washington Street over Weymouth Fore River, at Weymouth line.
 Raynham — Taunton Turnpike over Taunton River, over Haskins Brook and over Damlot Brook.
 Revere — East Boston Tunnel Road over oil pipe corridor and over Revere Beach Parkway and Winthrop Avenue, over highway and tracks of Boston and Maine Railroad. Traffic Road at Point of Pines over tracks of Boston, Revere Beach and Lynn Railroad and private property. Highway under Parkway near Eliot Circle.
 Templeton — Phillipston Road over Crow Hill Brook.
 Waltham — Main Street over tracks of Boston and Maine Railroad at Beaver Brook Station.
 Weymouth — Main Street over tracks of New York, New Haven and Hartford Railroad.
 Winchester — Grade separation of highway and tracks of Boston and Maine Railroad.
 Yarmouth — West Yarmouth Road over Parkers River.

Examinations, Reports, Estimates, etc., at Request of Counties, Cities and Towns

- Amesbury — Chain Bridge over Merrimack River; examination and report of condition.
 Amesbury — Essex-Merrimack Bridge over Merrimack River; examination and report of condition.
 Amherst — Meadow Street Bridge, North Amherst; examination and estimate for a new bridge.
 Ashland — Howe Street over Indian Brook; examination and estimate for a new bridge.
 Bedford — Middlesex Turnpike over Shawsheen River; examination and advice on strength of bridge under construction.
 Chester — Main Street over West Branch of Westfield River; examination and estimate of repairs to bridge.
 Conway — Bardwell's Bridge over Deerfield River; examination and estimate for repairs.
 Framingham — Herbert Street over Beaver Dam Brook; examination and estimate for reconstruction of bridge.
 Gill — At Montague line over Connecticut River; examinations and advice on repairs to bridge.
 Greenfield — Site of Smead Bridge; estimate for new bridge.
 Millville — Central Street over Blackstone River; examination and estimate for new bridge.

Examinations, Reports, Estimates, etc., by direction of the Department. Cities and Towns, Locality and Subject.

- Boston — Commonwealth Pier heating plant; advice on boiler installation.
 Boston — D Street garage of Department; investigation of floor design.

- Boston — New building for Public Works Department; investigation of design of basement floor.
- Colrain — Center Bridge over East Branch of North River; estimate for cost of reconstruction.
- Dighton — At the Taunton line over Three Mile River; estimate for widening bridge.
- Marshfield — State highway over South River; estimate for widening bridge.
- Newburyport — At the Salisbury line over Merrimack River; estimate for repairs to bridge.

Bridge Plans Submitted and Examined during the Year under the provisions of Chapter 85, General Laws, as amended by Chapter 313 of Acts of 1923.

- Athol — Reconstruction of bridge on Chestnut Street over Mill Brook; reinforced concrete arch, 13-foot span.
- Concord — Repairs and additions to the three-arch bridge on Elm Street over Concord River.
- Fall River — Extension of Third Street Bridge over Quequechan River.
- Haverhill — Reconstruction of Country Bridge over East Meadow Brook; one 17-foot span.
- Haverhill — Reconstruction of Brandy Brow Bridge over East Meadow Brook; one 12-foot span.
- Haverhill — Reconstruction of North Avenue Bridge over Snow's Brook; one 13-foot span.
- Hingham — At the Weymouth line; alterations to Back River Bridge.
- Pittsfield — Bridge on West Housatonic Street over Southwest Branch of Housatonic River; one 28-foot span, steel stringer with concrete floor.
- Winchendon — George M. Whitney Memorial Bridge over Millers River; two 24-foot spans and one 26-foot span, reinforced concrete arches.
- Worcester — Southbridge Street bridge over Blackstone River; two spans, steel stringer bridge.

Examinations, Studies, Estimates and Reports by direction of Acts and Resolves of the Legislature.

- Chapter 450, Acts of 1931, Section 8. This section of the Act directs the department of public works "to make surveys and prepare plans and estimates of cost of a grade separation by means of an overpass at the intersection of the Riverway and Huntington Avenue in the City of Boston". Preliminary plans and estimates have been made.
- Chapter 241, Acts of 1932. "An Act providing for the construction of a new bridge over the Saugus river between the Point of Pines in the city of Revere and the city of Lynn". Plans and specifications have been completed.
- Chapter 258, Acts of 1932, Section 1. This section directs the department to lay out and construct a state highway "including any necessary alterations to the bridge at Beach Street, crossing the tracks of said railroad", referring to the Boston and Maine Railroad. The contract for the work has been awarded and construction work has started.
- Chapter 302, Acts of 1932. "An Act authorizing the laying out of a State highway extending from Alewife Brook Parkway in the city of Cambridge westerly through said city and the towns of Arlington, Belmont, Lexington, Lincoln and Concord." Preliminary studies for bridges in Concord have been made.
- Chapter 25, Resolves of 1932. "Resolve providing for an investigation and study by the department of public works, of traffic conditions on a portion of the Fall River-New Bedford highway." The report has been filed with the clerk of the house of representatives.

Chapter 27, Resolves of 1932. "Resolve providing for an investigation by the department of public works relative to the advisability of further dredging Lynn Harbor and Saugus River and of widening draws in bridges over said river." The report has been filed with the clerk of the house of representatives.

Chapter 32, Resolves of 1932. "Resolves providing for the making and preparation by the department of public works of surveys, estimates, plans and specifications for the construction of a new high level bridge over the Weymouth Fore River between the city of Quincy and the town of Weymouth." The report has been filed with the clerk of the senate.

BRIDGE OVER THE MERRIMACK RIVER BETWEEN NEWBURYPORT AND SALISBURY

This bridge was placed in charge of the Massachusetts Highway Commission and made a State highway by the provisions of Chapter 716, Acts of 1912, which also provided that the expense of keeping the bridge in good repair for travel, of operating the draw and of maintaining the structure shall be paid by the Commonwealth.

The number of draw openings during the year ending Nov. 30, 1933, was 153. In 1932 the number of such openings was 220; in 1931 the number was 415; and in 1930 the number was 335.

The total expenditure during the year was \$11,350.43.

The total expenditure from 1912 to Nov. 30, 1933, inclusive, was \$189,812.11.

BRIDGE OVER TAUNTON RIVER BETWEEN FALL RIVER AND SOMERSET

This bridge was placed in charge of the Massachusetts Highway Commission and made a State highway by the provisions of Chapter 717, Acts of 1912, which also provided that the expense of keeping the bridge in good repair for travel, and for operating the draw and maintaining the structure shall be paid by the Commonwealth.

The number of draw openings during the year ending Nov. 30, 1933, was 1,602. In 1932 the number of such openings was 1,662; in 1931 the number was 1,700; and in 1930 the number was 1,812.

The total expenditure during the year was \$16,703.60.

The total expenditure from 1912 to Nov. 30, 1933, inclusive, was \$371,618.48.

BRIDGE OVER THE ACUSHNET RIVER BETWEEN CITY OF NEW BEDFORD AND THE TOWN OF FAIRHAVEN

This bridge, which was placed in charge of the Department of Public Works and made a State highway by the provisions of Chapter 406, Acts of 1930, which also provided that the expense of keeping the bridge in good repair for travel, operating the draw and of maintaining the structure shall be paid by the Commonwealth, was taken over by the Department on June 27, 1930.

The number of draw openings while in charge of the Department beginning June 27, 1930, and ending Nov. 30, 1932, was 1,069. In 1931 the number of such openings was 2,564; in 1932 the number was 2,384; and in 1933 the number was 1,867.

The total expenditure during the year was \$14,486.01.

The total expenditure while in charge of the Department has been \$65,491.00.

CONSTRUCTION OF TOWN AND COUNTY WAYS

(Section 34, Chapter 90, General Laws, as revised and amended.)

During the year the Department has contracted for work to be done in the towns/cities named in the following table, which also shows the type of road, the length contracted for, and the allotments or contributions by the State, towns/cities and counties:

COUNTIES AND TOWNS	State	CONTRIBUTIONS		TYPE OF ROAD	LENGTH CON-TRACTED FOR
<i>Barnstable County</i>		Town	County		(FEET)
Bourne	\$30,000 00	—	—	Bituminous macadam	3,503
Orleans	5,000 00	2,500 00	2,500 00	Bituminous concrete	4,000
Orleans	6,000 00	3,000 00	3,000 00	Bituminous concrete	5,000
<i>Berkshire County</i>					
Adams	8,000 00	4,000 00	4,000 00	Stone and tar mixed in place	2,925
Alford	1,000 00	500 00	500 00	Gravel	800
Becket	3,000 00	1,500 00	1,500 00	Gravel	2,050
Becket	1,000 00	500 00	500 00	Gravel	575
Becket	1,000 00	500 00	500 00	Gravel	1,000
Cheshire	3,200 00	1,600 00	1,600 00	Gravel	2,150
Cheshire	500 00	—	—	Oiling	8,539
Clarksburg	2,000 00	1,000 00	1,000 00	Gravel	2,750
Egremont	3,200 00	1,600 00	1,600 00	{Stone retread	1,765
				{Gravel	2,500
Florida	4,000 00	4,000 00	—	Gravel	2,320
Great Barrington	15,000 00	10,000 00	5,000 00	Bituminous macadam	5,305
Hancock	32,500 00	1,250 00	5,000 00	Bituminous macadam	9,200
Hancock	1,000 00	350 00	—	Oiling	28,000
Hancock	1,000 00	500 00	—	Gravel	550
Hinsdale	3,000 00	500 00	1,000 00	Bridge	—
Lanesborough	4,000 00	2,000 00	2,000 00	Stone retread	2,100
Lee	2,000 00	1,000 00	1,000 00	Gravel	1,573
Lee	2,225 00	2,225 00	2,225 00	Bituminous macadam	901
Lenox	3,000 00	1,500 00	1,500 00	Gravel	1,700
Monterey	500 00	250 00	250 00	Gravel	375
Mount Washington	1,500 00	500 00	1,000 00	Gravel	1,350
New Ashford	400 00	200 00	200 00	Gravel	450
New Marlborough	1,000 00	500 00	500 00	Stone retread	2,500
New Marlborough	3,000 00	1,500 00	1,500 00	Stone retread	7,500
New Marlborough	2,000 00	1,000 00	1,000 00	Stone retread	5,000
Otis	2,000 00	500 00	1,000 00	Gravel	1,200
Otis	4,000 00	500 00	2,000 00	Gravel	1,800
Pittsfield	24,000 00	12,000 00	12,000 00	Bituminous macadam	9,899
Richmond	2,500 00	1,000 00	1,500 00	Gravel	2,150
Sandisfield	4,000 00	2,000 00	2,000 00	Gravel and stone retread	6,650
Sheffield	3,000 00	1,500 00	1,500 00	Gravel and stone retread	4,955
Sheffield	1,000 00	500 00	500 00	Gravel	1,000
Stockbridge	7,500 00	5,000 00	2,500 00	Bituminous macadam	2,000
Tyringham	3,000 00	2,000 00	1,000 00	Stone retread	1,850
Washington	4,000 00	2,000 00	2,000 00	Gravel	2,200
West Stockbridge	6,000 00	3,000 00	3,000 00	Gravel	4,600
Williamstown	3,000 00	3,000 00	—	Gravel	1,564
Windsor	1,000 00	500 00	500 00	Gravel	750
Windsor	1,000 00	500 00	500 00	Gravel	650
<i>Bristol County</i>					
Berkley	2,000 00	1,000 00	1,000 00	Gravel	1,000
Berkley	1,000 00	1,000 00	—	Oiling	47,300
Easton	6,000 00	6,000 00	—	Gravel	2,080
Freetown	1,000 00	1,000 00	—	Oiling	68,300
Rehoboth	5,150 00	2,575 00	2,575 00	Bituminous macadam	2,303
Rehoboth	2,850 00	1,425 00	1,425 00	Gravel	2,600
Westport	2,500 00	2,500 00	—	Repair bridge	—
<i>Dukes County</i>					
Chilmark	250 00	125 00	125 00	Bituminous concrete	115
Oak Bluffs	17,584 14	10,000 00	14,915 86	Bituminous concrete	11,000
Tisbury	21,800 00	10,900 00	—	Bituminous concrete	3,825
<i>Essex County</i>					
Amesbury	500 00	500 00	—	Oiling	17,350
Amesbury	6,000 00	6,000 00	—	Bituminous macadam	2,238
Boxford	1,000 00	1,000 00	—	Oiling	31,000
Boxford	14,400 00	1,600 00	—	Gravel and tar mixed in place	5,800
Georgetown	1,500 00	1,500 00	—	Gravel	1,500
Gloucester	5,000 00	5,000 00	—	Bituminous macadam	2,800
Haverhill	30,000 00	30,000 00	—	Bituminous macadam	20,918
*Marblehead	12,000 00	12,000 00	—	Bituminous macadam	4,622
Merrimac	2,000 00	2,000 00	—	Gravel	3,700
Merrimac	1,000 00	—	—	Gravel	800
Merrimac	500 00	500 00	—	Gravel	2,150
Methuen	6,500 00	6,500 00	—	Bituminous macadam	5,600
Middleton	500 00	500 00	—	Grading and drainage	10,700
Middleton	500 00	500 00	—	Grading and drainage	6,570
Nahant	1,500 00	1,500 00	—	Oiling	12,144
Rowley	500 00	500 00	—	Oiling	11,000

COUNTIES AND TOWNS	State	CONTRIBUTIONS Town	County	TYPE OF ROAD	LENGTH CON- TRACTED FOR (FEET)
Salisbury	16,000 00	—	—	Bituminous macadam	1,065
Salisbury	3,500 00	3,500 00	—	Broken stone and tar mixed in place	2,700
*Ipswich	1,500 00	1,500 00	—	Oiling	40,950
West Newbury	900 00	900 00	—	Oiling	8,448
<i>Franklin County</i>					
Ashfield	1,000 00	1,000 00	—	Gravel	900
Ashfield	2,000 00	1,000 00	1,000 00	Gravel	1,800
Ashfield	4,000 00	—	—	Repair and oiling	6,000
Ashfield	5,300 00	240 00	—	Oiling	31,680
Buckland	6,000 00	5,000 00	1,000 00	Gravel	6,000
Charlemont	2,000 00	1,000 00	1,000 00	Stone retread	3,500
Colrain	16,000 00	6,500 00	—	Gravel and tar	1,250
Colrain	2,000 00	1,000 00	1,000 00	Bituminous macadam	1,000
Conway	3,000 00	2,000 00	1,000 00	Gravel	2,400
Deerfield	3,000 00	2,000 00	1,000 00	Bituminous macadam	1,400
Erving	2,000 00	1,000 00	1,000 00	Gravel and tar mixed in place	2,300
Gill	2,965 00	670 00	—	Oiling	35,376
Gill	2,000 00	1,000 00	1,000 00	Gravel	1,350
Greenfield	2,600 00	1,600 00	1,000 00	Stone retread	2,157
Greenfield	1,250 00	2,500 00	1,250 00	Bridge	—
Hawley	1,000 00	500 00	500 00	Gravel	600
Hawley	1,000 00	500 00	500 00	Gravel	1,500
Heath	2,000 00	1,000 00	1,000 00	Gravel	1,800
Leverett	2,000 00	1,000 00	1,000 00	Oiling	16,896
Leyden	2,000 00	1,000 00	1,000 00	Bituminous macadam	1,000
Monroe	1,000 00	500 00	500 00	Gravel and tar mixed in place	3,500
Montague	8,000 00	7,000 00	1,000 00	Bituminous macadam	2,975
New Salem	3,000 00	2,000 00	1,000 00	Oiling	49,104
New Salem	2,000 00	1,000 00	—	Gravel	1,650
Northfield	2,000 00	1,000 00	1,000 00	Gravel and tar mixed in place	4,500
Orange	1,000 00	1,000 00	—	Gravel and tar	6,000
Orange	21,000 00	8,000 00	1,000 00	Bituminous macadam	2,400
Orange	400 00	320 00	—	Oiling	7,392
Rowe	2,000 00	1,000 00	1,000 00	Gravel	1,200
Shelburne	1,000 00	1,000 00	—	Bituminous macadam	1,000
Shelburne	2,000 00	1,500 00	500 00	Gravel	240
Shutesbury	2,000 00	1,000 00	1,000 00	Gravel and tar mixed in place	3,000
Sunderland	4,000 00	1,000 00	1,000 00	Grading and drainage	3,800
Warwick	2,000 00	1,000 00	1,000 00	Gravel	1,400
Warwick	1,200 00	1,200 00	—	Gravel	500
Warwick	3,800 00	400 00	—	Oiling	43,824
Wendell	1,500 00	1,500 00	—	Oiling	21,648
Wendell	4,000 00	3,000 00	1,000 00	Gravel	3,000
<i>Hampden County</i>					
Agawam	7,500 00	5,000 00	2,500 00	Bituminous macadam	2,800
Blandford	3,000 00	1,700 00	1,700 00	Gravel	2,500
Brimfield	500 00	500 00	500 00	Oiling	27,296
Brimfield	3,000 00	1,000 00	1,000 00	Gravel and tar mixed in place	1,132
Brimfield	1,500 00	1,000 00	500 00	Grading and drainage	2,837
Chester	5,000 00	800 00	4,000 00	Gravel and stone retread	3,220
Chester	5,000 00	800 00	4,000 00	Gravel and stone retread	5,200
Chester	1,100 00	300 00	400 00	Bituminous macadam and bridge repair	400
Chester	7,000 00	—	1,000 00	Stone retread	11,500
Chester	1,600 00	500 00	1,100 00	Stone retread	2,400
Chicopee	32,500 00	20,000 00	12,500 00	Bituminous macadam	7,690
East Longmeadow	5,000 00	2,000 00	3,000 00	Bituminous macadam	3,000
East Longmeadow	500 00	500 00	500 00	Gravel and tar mixed in place	4,400
Granville	8,000 00	2,000 00	5,000 00	Bituminous macadam	6,000
Granville	800 00	473 00	—	Oiling	10,560
Hampden	3,000 00	1,400 00	2,200 00	Bituminous macadam	1,550
Hampden	5,000 00	1,400 00	3,000 00	Bituminous macadam	3,000
Hampden	400 00	400 00	400 00	Oiling	4,752
Holland	4,000 00	1,000 00	3,200 00	Gravel and tar mixed in place	2,050
Holland	500 00	500 00	500 00	Oiling	18,200
Longmeadow	20,000 00	16,000 00	10,000 00	Bituminous macadam	11,112
Ludlow	8,000 00	4,000 00	4,000 00	Bituminous macadam	4,000
Monson	4,000 00	2,000 00	2,000 00	Gravel and tar mixed in place	2,050
Montgomery	5,000 00	1,000 00	3,000 00	Gravel	3,000
Palmer	1,000 00	1,000 00	1,000 00	Oiling	22,651
Palmer	5,000 00	1,000 00	2,000 00	Tar macadam mixed in place	3,450
Southwick	4,000 00	1,500 00	2,000 00	Bituminous macadam	2,000
Southwick	1,600 00	330 00	—	Oiling	21,813
Springfield	20,000 00	10,000 00	10,000 00	Bituminous macadam	4,155
Tolland	6,000 00	2,000 00	3,000 00	Bituminous macadam	11,635
Wales	3,000 00	1,000 00	2,000 00	Gravel and tar mixed in place	1,800
Wales	250 00	250 00	250 00	Oiling	7,000
West Springfield	12,000 00	6,000 00	6,000 00	Bituminous macadam	3,358
West Springfield	9,000 00	6,000 00	3,000 00	Bituminous macadam	2,328
Westfield	6,000 00	4,000 00	2,000 00	Bituminous macadam	4,300
Westfield	2,700 00	1,800 00	900 00	Bituminous macadam	1,700
Westfield	1,500 00	1,000 00	500 00	Bituminous macadam	4,200

COUNTIES AND TOWNS	CONTRIBUTIONS			TYPE OF ROAD	LENGTH CON- TRACTED FOR (FEET)
	State	Town	County		
Westfield	4,000 00	2,000 00	2,000 00	Bridge	—
Wilbraham	4,000 00	900 00	2,400 00	Bituminous macadam	2,312
<i>Hampshire County</i>					
Amherst	12,000 00	8,000 00	4,000 00	Bituminous macadam	5,935
Belchertown	16,250 00	3,750 00	5,000 00	Bituminous macadam	6,550
Belchertown	1,100 00	96 00	—	Oiling	12,919
Chesterfield	1,500 00	750 00	750 00	Gravel	1,080
Chesterfield	2,700 00	150 00	—	Oiling	31,680
Chesterfield	500 00	250 00	250 00	Gravel	450
Chesterfield	1,000 00	500 00	500 00	Gravel	800
Cummington	1,000 00	500 00	500 00	Gravel	500
Cummington	3,000 00	1,500 00	1,500 00	Gravel	2,200
Cummington	800 00	37 00	—	Oiling	7,800
Enfield	1,000 00	500 00	500 00	Oiling	20,064
Enfield	1,050 00	88 00	—	Gravel	300
Goshen	1,000 00	500 00	500 00	Gravel	500
Goshen	1,000 00	500 00	500 00	Gravel	700
Goshen	1,000 00	45 00	—	Oiling	9,400
Granby	2,000 00	1,000 00	2,000 00	Bituminous macadam	1,850
Granby	2,000 00	1,000 00	—	Oiling	16,368
Greenwich	750 00	750 00	—	Oiling	17,424
Huntington	4,200 00	1,000 00	1,000 00	Gravel	1,050
Huntington	1,800 00	1,000 00	1,000 00	Gravel and stone retread	1,800
Middlefield	400 00	200 00	200 00	Gravel	275
Middlefield	4,000 00	1,000 00	1,000 00	Gravel	2,100
Middlefield	400 00	200 00	200 00	Gravel	200
Northampton	7,000 00	5,000 00	2,000 00	Bituminous macadam	5,463
Pelham	1,000 00	500 00	500 00	Gravel	1,000
Pelham	6,800 00	1,200 00	2,000 00	Bituminous macadam	3,550
Plainfield	8,000 00	1,000 00	1,000 00	Gravel and tar mixed in place	900
Plainfield	2,000 00	300 00	300 00	Gravel and tar mixed in place	1,000
Plainfield	9,000 00	77 00	—	Repairs and oiling	27,456
South Hadley	750 00	500 00	500 00	Gravel	100
				Repairs	200
Southampton	8,000 00	4,000 00	4,000 00	Gravel and stone mixed in place with tar	600
Ware	4,000 00	2,000 00	2,000 00	Oiling	2,670
Westhampton	1,500 00	750 00	750 00	Gravel	1,200
Williamsburg	700 00	165 00	—	Oiling	11,600
Williamsburgh	16,000 00	2,500 00	500 00	Bituminous macadam and bridge	900
Worthington	2,000 00	1,000 00	1,000 00	Gravel	925
Worthington	1,000 00	500 00	500 00	Gravel	650
Worthington	1,000 00	500 00	500 00	Gravel	400
<i>Middlesex County</i>					
Acton	3,750 00	2,500 00	1,250 00	Gravel and tar	4,100
Acton	2,000 00	2,000 00	2,000 00	Oiling	89,232
Arlington	7,000 00	3,500 00	3,500 00	Drainage	6,838
Arlington	15,000 00	7,500 00	7,500 00	Bituminous concrete	6,838
Ashby	1,000 00	500 00	1,000 00	Oiling	17,952
Ashland	1,000 00	1,000 00	1,000 00	Oiling	23,232
Ashland	1,000 00	600 00	400 00	Gravel	900
Ayer	1,500 00	1,500 00	1,500 00	Oiling	46,094
Ayer	3,750 00	2,500 00	1,250 00	Gravel	1,936
Ayer	2,500 00	2,500 00	2,500 00	Bridge repairs	—
Bedford	1,000 00	1,000 00	1,000 00	Oiling	46,464
Bedford	200 00	200 00	200 00	Bridge repairs	—
Belmont	7,000 00	5,000 00	2,000 00	Bituminous macadam	1,336
Billerica	5,600 00	4,000 00	1,600 00	Gravel and tar	4,200
Billerica	5,600 00	4,000 00	1,600 00	Gravel and tar	4,200
Billerica	7,000 00	5,000 00	2,000 00	Bridge and approaches	—
Billerica	3,000 00	3,000 00	3,000 00	Oiling	71,808
Boxborough	750 00	750 00	750 00	Oiling	37,488
Boxborough	1,500 00	500 00	500 00	Gravel	1,500
Burlington	2,500 00	2,500 00	1,000 00	Oiling	59,136
Burlington	4,500 00	3,000 00	1,500 00	Gravel and tar	3,800
Burlington	3,000 00	2,000 00	1,000 00	Gravel	3,000
Carlisle	4,000 00	1,500 00	2,000 00	Gravel	3,700
Carlisle	1,000 00	1,000 00	1,000 00	Oiling	64,944
Chelmsford	2,000 00	2,000 00	2,000 00	Oiling	78,672
Chelmsford	4,000 00	4,000 00	4,000 00	Bituminous concrete	2,170
Concord	15,000 00	10,000 00	5,000 00	Bituminous macadam	8,886
Dracut	1,000 00	1,000 00	1,000 00	Oiling	51,216
Dracut	4,500 00	3,000 00	1,500 00	Gravel	5,600
Dunstable	1,750 00	1,750 00	1,750 00	Oiling	49,104
Dunstable	3,000 00	1,000 00	1,000 00	Oiling	42,240
Frammingham	18,000 00	12,000 00	6,000 00	Bituminous macadam	5,636
Groton	3,500 00	3,500 00	3,500 00	Oiling	48,048
Groton	10,000 00	4,000 00	6,000 00	Gravel	7,500
Holliston	1,500 00	1,500 00	1,500 00	Oiling	46,992
Hopkinton	9,000 00	3,000 00	3,000 00	Grading	3,080
				Bituminous macadam	2,400
				Bridge	—

COUNTIES AND TOWNS	CONTRIBUTIONS			TYPE OF ROAD	LENGTH CON- TRACTED FOR (FEET)
	State	Town	County		
Hopkinton	1,000 00	1,000 00	1,000 00	Oiling	66,528
Hudson	37,500 00	25,000 00	12,500 00	Bituminous macadam	15,478
Lexington	5,000 00	5,000 00	—	Gravel and asphalt	5,300
Lincoln	2,500 00	2,500 00	2,500 00	Oiling	36,960
Littleton	1,800 00	1,800 00	1,800 00	Oiling	51,216
Littleton	1,300 00	900 00	500 00	Gravel	1,500
Littleton	1,300 00	900 00	500 00	Gravel	2,000
Lowell	30,000 00	30,000 00	—	Bituminous macadam	7,605
Malden	20,000 00	25,000 00	5,000 00	Bituminous macadam	3,870
Marlborough	9,000 00	9,000 00	—	Bituminous macadam	1,805
Melrose	8,000 00	4,000 00	—	Gravel	2,500
Natick	1,000 00	1,000 00	1,000 00	Oiling	56,496
Natick	3,000 00	3,000 00	—	Bituminous macadam	1,220
North Reading	2,000 00	2,000 00	2,000 00	Oiling	52,272
North Reading	4,500 00	3,000 00	1,500 00	Bituminous macadam	3,650
Pepperell	3,000 00	3,000 00	3,000 00	Oiling	62,336
Pepperell	3,000 00	2,000 00	1,000 00	Gravel	5,000
Reading	12,000 00	8,000 00	4,000 00	Bituminous macadam	900
				Gravel	12,360
Sherborn	13,000 00	5,000 00	7,000 00	Bituminous macadam	5,914
Sherborn	5,000 00	2,000 00	3,000 00	Gravel	5,850
Sherborn	2,000 00	2,000 00	2,000 00	Oiling	71,280
Shirley	1,500 00	1,500 00	1,500 00	Oiling	51,216
Stoneham	15,000 00	10,000 00	5,000 00	Bituminous macadam	3,692
Stow	1,200 00	1,200 00	1,200 00	Oiling	41,184
Sudbury	3,000 00	3,000 00	3,000 00	Oiling	79,728
Tewksbury	2,500 00	1,500 00	1,000 00	Gravel	3,500
Tewksbury	1,000 00	1,000 00	1,000 00	Oiling	35,640
Tewksbury	4,200 00	2,800 00	1,400 00	Bituminous macadam	1,500
Townsend	2,000 00	2,000 00	2,000 00	Oiling	32,736
Townsend	3,500 00	1,000 00	1,500 00	Gravel	2,250
Tyngsborough	2,000 00	2,000 00	2,000 00	Oiling	73,360
Tyngsborough	3,000 00	1,000 00	1,000 00	Gravel	2,600
Tyngsborough	3,000 00	1,000 00	1,000 00	Gravel	2,700
Tyngsborough	3,000 00	1,000 00	1,000 00	Gravel	2,700
Wakefield	11,800 00	7,800 00	4,000 00	Bituminous macadam and bituminous concrete	7,600
Waltham	500 00	500 00	500 00	Bituminous macadam	400
Watertown	9,000 00	4,500 00	4,500 00	Bituminous macadam	1,590
Wayland	3,000 00	3,000 00	3,000 00	Oiling	48,576
Wayland	6,000 00	6,000 00	3,000 00	Bituminous macadam	2,400
Westford	5,000 00	5,000 00	5,000 00	Oiling	118,272
Westford	1,500 00	1,000 00	500 00	Gravel	2,000
Westford	1,500 00	500 00	1,000 00	Gravel	1,530
Westford	3,000 00	2,000 00	1,000 00	Gravel	2,500
Westford	4,000 00	1,000 00	2,000 00	Gravel	3,355
Wilmington	3,000 00	2,000 00	1,000 00	Gravel	3,000
Wilmington	1,000 00	1,000 00	1,000 00	Oiling	32,208
Winchester	32,500 00	32,500 00	—	Bituminous concrete	9,740
<i>Norfolk County</i>					
Bellingham	2,650 00	—	1,325 00	Oiling	52,000
Foxborough	4,000 00	2,000 00	—	Gravel	1,095
Foxborough	7,000 00	7,000 00	—	Gravel and tar mixed in place	4,200
Franklin	10,000 00	10,000 00	—	Gravel and tar	6,500
Medfield	1,000 00	1,000 00	1,000 00	Oiling	9,720
Medway	1,000 00	1,000 00	1,000 00	Oiling	—
Millis	1,000 00	1,000 00	1,000 00	Oiling	10,300
Needham	9,000 00	9,000 00	—	Bituminous macadam	3,950
Norfolk	1,200 00	1,200 00	1,200 00	Oiling	51,163
Norfolk	600 00	300 00	300 00	Gravel	518
Walpole	2,500 00	2,500 00	—	Oiling	12,000
Walpole	2,000 00	2,000 00	—	Gravel stone	1,500
Walpole	2,000 00	2,000 00	—	Gravel stone and tar	1,650
Weymouth	15,000 00	15,000 00	—	Bituminous concrete	3,930
Wrentham	1,800 00	900 00	—	Gravel	291
Wrentham	4,000 00	4,000 00	—	Gravel and tar mixed in place	2,500
Wrentham	4,000 00	4,000 00	—	Gravel	2,000
<i>Plymouth County</i>					
Bridgewater	2,000 00	2,000 00	—	Gravel and bituminous ma- cadam	5,000
Bridgewater	2,000 00	2,000 00	—	Gravel	4,318
Brockton	22,500 00	22,500 00	—	Bituminous macadam	9,160
Carver	2,000 00	2,000 00	—	Gravel and tar mixed in place	2,800
Hanover	7,500 00	3,750 00	3,750 00	Gravel and tar	8,300
Lakeville	1,500 00	750 00	750 00	Oiling	6,358
Marion	2,000 00	2,000 00	—	Gravel and tar mixed in place	2,000
Middleborough	1,000 00	1,000 00	1,000 00	Oiling	18,746
Pembroke	4,000 00	2,500 00	1,500 00	Gravel and tar mixed in place	4,880
Rockland	12,000 00	6,000 00	6,000 00	Bituminous macadam	5,000
West Bridgewater	3,000 00	1,500 00	1,500 00	Bituminous macadam	1,532
West Bridgewater	3,000 00	1,500 00	1,500 00	Gravel	4,600

COUNTIES AND TOWNS	CONTRIBUTIONS		TYPE OF ROAD		LENGTH CON- TRACTED FOR (FEET)
	State	Town	County		
<i>Worcester County</i>					
Ashburnham	1,000 00	750 00	1,000 00	Oiling	39,350
Athol	1,500 00	1,500 00	1,500 00	Oiling	32,512
Auburn	15,000 00	10,000 00	5,000 00	{Stone and tar mixed in place {Gravel and tar mixed in place	3,275 4,600
Barre	6,000 00	5,000 00	4,000 00	Gravel and tar mixed in place and bridge	4,430
Barre	1,200 00	1,200 00	1,200 00	Gravel and tar mixed in place	1,350
Barre	300 00	300 00	300 00	Oiling	7,824
Berlin	8,000 00	3,500 00	4,000 00	Gravel and tar mixed in place	1,995
Berlin	2,500 00	1,000 00	2,500 00	Oiling	34,830
Blackstone	4,000 00	3,000 00	2,000 00	Broken stone and tar mixed in place	4,100
Blackstone	1,500 00	1,000 00	500 00	Gravel and tar mixed in place	1,800
Blackstone	1,000 00	1,000 00	1,000 00	Oiling	23,472
Bolton	15,000 00	2,000 00	5,000 00	Bituminous macadam	5,700
Bolton	1,000 00	500 00	1,000 00	Oiling	43,929
Boylston	4,000 00	1,000 00	2,000 00	Oiling	—
Boylston	11,000 00	3,000 00	7,000 00	Gravel and tar mixed in place	5,897
Boylston	2,000 00	1,000 00	2,000 00	Oiling	48,338
Brookfield	3,000 00	1,000 00	1,000 00	Gravel and tar mixed in place	1,700
Brookfield	1,000 00	500 00	1,000 00	Oiling	21,400
Charlton	3,000 00	1,000 00	1,000 00	Gravel and tar mixed in place	1,900
Charlton	500 00	200 00	500 00	Oiling	22,030
Clinton	10,000 00	—	—	Bituminous macadam	1,500
Dana	2,600 00	500 00	1,000 00	Gravel	900
Dana	2,500 00	1,000 00	2,500 00	Oiling	61,491
Douglas	4,500 00	2,000 00	2,500 00	Gravel and tar mixed in place	4,400
Dudley	9,000 00	5,000 00	4,000 00	Gravel and tar mixed in place	10,190
East Brookfield	2,500 00	1,000 00	1,500 00	Grading and bridge	1,550
East Brookfield	2,000 00	800 00	1,200 00	Grading and drainage	1,200
Grafton	2,000 00	2,000 00	2,000 00	Oiling	27,047
Hardwick	3,600 00	1,400 00	2,600 00	Bituminous macadam	1,596
Hardwick	1,300 00	1,300 00	1,300 00	Oiling	55,704
Harvard	2,000 00	1,000 00	2,000 00	Oiling	46,547
Holden	500 00	500 00	500 00	Oiling	34,048
Holden	5,000 00	3,000 00	2,000 00	Gravel and tar mixed in place	2,770
Hubbardston	1,000 00	500 00	1,000 00	Gravel and tar mixed in place	1,050
Hubbardston	6,000 00	2,000 00	2,000 00	Gravel and tar mixed in place	1,800
Hubbardston	1,400 00	700 00	1,400 00	Oiling	55,668
Leicester	4,000 00	1,500 00	2,000 00	Gravel and tar mixed in place	2,050
Lunenburg	1,000 00	500 00	1,000 00	Oiling	30,429
Mendon	1,100 00	500 00	1,100 00	Oiling	34,600
Mendon	4,600 00	1,100 00	2,000 00	Gravel and tar mixed in place	2,950
Milford	6,000 00	4,000 00	2,000 00	Bituminous macadam	2,690
Millville	3,000 00	—	3,000 00	Gravel and tar mixed in place	761
New Braintree	2,000 00	750 00	1,000 00	Gravel and tar mixed in place and bridge	750 39,109
New Braintree	1,000 00	500 00	1,000 00	Oiling	2,300
North Brookfield	4,000 00	2,000 00	1,500 00	Gravel and tar mixed in place and bridge	5,341
North Brookfield	200 00	200 00	200 00	Oiling	4,600
Northbridge	6,000 00	5,000 00	4,000 00	Gravel and tar mixed in place Bituminous macadam	2,515
Northbridge	2,000 00	1,500 00	4,000 00	Gravel and tar mixed in place	1,900
Northbridge	3,000 00	2,000 00	1,000 00	Gravel and tar mixed in place	2,100
Northbridge	1,000 00	1,000 00	1,000 00	Oiling	9,300
Oakham	5,000 00	2,000 00	3,000 00	Gravel	5,000
Oakham	1,100 00	800 00	1,100 00	Oiling	28,809
Oxford	1,150 00	750 00	1,150 00	Oiling	34,918
Paxton	5,000 00	2,000 00	3,000 00	Gravel	3,300
Paxton	1,200 00	600 00	1,200 00	Oiling	15,470
Petersham	1,500 00	1,500 00	1,500 00	Oiling	37,563
Petersham	4,000 00	1,500 00	2,000 00	Gravel and tar mixed in place	3,450
Phillipston	4,500 00	1,000 00	4,500 00	Gravel and tar mixed in place	7,250
Phillipston	4,500 00	1,000 00	4,500 00	Gravel and tar mixed in place	3,600
Phillipston	500 00	500 00	500 00	Oiling	34,100
Princeton	4,000 00	1,500 00	2,000 00	Grading and bridge	949
Princeton	2,000 00	1,000 00	2,000 00	Oiling	70,980
Royalston	1,500 00	500 00	500 00	Gravel	19,430
Royalston	3,200 00	1,300 00	2,000 00	Oiling	50,637
Rutland	3,000 00	1,250 00	2,000 00	Gravel and tar mixed in place	1,860
Rutland	600 00	600 00	600 00	Gravel	2,815
Rutland	1,200 00	600 00	1,200 00	Oiling	45,062
Shrewsbury	15,000 00	10,000 00	5,000 00	Stone and tar mixed in place Gravel and tar mixed in place Bituminous macadam and bridge	625 7,075 614
Southborough	1,700 00	1,700 00	1,700 00	Oiling	13,360
Southborough	300 00	300 00	300 00	Bituminous macadam	5,250
Southbridge	15,000 00	10,000 00	5,000 00	Gravel and tar mixed in place	4,700
Spencer	6,000 00	2,500 00	4,000 00	Oiling	25,238
Spencer	500 00	500 00	500 00		

COUNTIES AND TOWNS	CONTRIBUTIONS			TYPE OF ROAD	LENGTH CON- TRACTED FOR (FEET)
	State	Town	County		
Sterling	4,500 00	2,000 00	3,500 00	Gravel and tar mixed in place	5,850
Sterling	4,500 00	2,000 00	3,500 00	Gravel and tar mixed in place	3,685
Sterling	2,000 00	1,000 00	2,000 00	Oiling	61,411
Sturbridge	2,000 00	1,000 00	2,000 00	Gravel and tar mixed in place	2,000
Sutton	5,000 00	2,000 00	5,000 00	Gravel and tar mixed in place	4,450
Sutton	1,200 00	600 00	1,200 00	Oiling	28,979
Sutton	5,000 00	500 00	5,000 00	Gravel and tar mixed in place	6,200
Templeton	4,000 00	3,000 00	2,000 00	Gravel and tar mixed in place	4,200
Templeton	1,000 00	1,000 00	1,000 00	Oiling	40,347
Upton	5,000 00	2,000 00	3,000 00	Gravel and tar mixed in place	3,251
Upton	5,000 00	2,000 00	3,000 00	{Gravel and tar mixed in place	3,750
				{Grading	3,800
Upton	1,000 00	500 00	1,000 00	Oiling	8,450
Uxbridge	5,000 00	4,000 00	3,000 00	Gravel and tar mixed in place	6,500
Uxbridge	750 00	500 00	250 00	Oiling	5,280
Uxbridge	7,000 00	6,000 00	5,000 00	Gravel and tar mixed in place	6,100
Warren	800 00	400 00	800 00	Oiling	16,675
West Boylston	5,000 00	2,000 00	3,000 00	Gravel and tar mixed in place	5,000
West Boylston	1,000 00	800 00	1,000 00	Oiling	26,863
West Brookfield	3,000 00	1,000 00	2,000 00	Gravel and asphalt emulsion mixed in place	4,200
West Brookfield	400 00	200 00	400 00	Oiling	8,525
Westborough	800 00	800 00	800 00	Oiling	39,960
Westminster	4,500 00	1,500 00	3,000 00	Gravel and tar mixed in place	8,955
Westminster	2,000 00	750 00	1,000 00	Gravel and tar mixed in place	1,566
Westminster	2,000 00	1,000 00	2,000 00	Oiling	49,772
Winchendon	1,200 00	600 00	1,200 00	Oiling	19,537

EXPENDITURES FOR CONSTRUCTION OF TOWN AND COUNTY WAYS

The expenditures during the year in various counties were:—

Barnstable, \$52,045.32	Hampshire, \$194,738.41
Berkshire, \$273,782.05	Middlesex, \$437,445.93
Bristol, \$22,540.35	Norfolk, \$69,591.17
Dukes, \$28,561.01	Plymouth, \$65,064.97
Essex, \$117,307.82	Worcester, \$361,846.58
Franklin, \$143,373.26	Total, \$1,968,729.01
Hampden, \$202,432.14	

Details of the foregoing expenditures follow:—

Barnstable County.—Bourne, \$36,605.18; Mashpee, \$1,885.83; Orleans, \$13,554.31.

Berkshire County.—Adams, \$7,699.27; Alford, \$2,033.37; Becket, \$6,469.11; Cheshire, \$6,866.04; Clarksburg, \$2,463.82; Egremont, \$3,943.07; Florida, \$4,928.83; Great Barrington, \$18,317.09; Hancock, \$39,742.23; Hinsdale, \$5,668.43; Lanesboro, \$6,269.91; Lee, \$6,949.05; Lenox, \$3,696.63; Monterey, \$614.37; Mt. Washington, \$1,848.07; New Ashford, \$492.65; New Marlboro, \$7,433.59; Otis, \$7,393.26; Peru, \$7,033.17; Pittsfield, \$29,163.52; Richmond, \$3,080.53; Sandisfield, \$4,928.84; Savoy, \$35,269.00; Sheffield, \$4,928.84; Stockbridge, \$9,931.27; Tyringham, \$4,066.29; Washington, \$4,928.61; West Stockbridge, \$9,848.42; Williamstown, \$25,310.74; Windsor, \$2,464.03.

Bristol County.—Berkley, \$3,955.25; Dartmouth, \$1,032.10; Easton, \$5,914.61; Freetown, \$1,232.21; Rehoboth, \$9,484.09; Swansea, \$922.09.

Dukes County.—Chilmark, \$267.20; Oak Bluffs, \$21,956.17; Tisbury, \$6,337.64.

Essex County.—Amesbury, \$7,929.25; Boxford, \$15,497.85; Georgetown, \$1,848.32; Gloucester, \$6,161.05; Haverhill, \$32,886.42; Ipswich, \$1,848.32; Marblehead, \$12,561.50; Merrimac, \$4,312.74; Methuen, \$6,432.74; Middleton, \$1,232.21; Nahant, \$1,848.28; Rowley, \$616.11; Salisbury, \$23,024.16; West Newbury, \$1,108.87.

Franklin County.—Ashfield, \$15,151.06; Buckland, \$7,393.26; Charlemont, \$2,464.42; Colrain, \$16,957.49; Conway, \$3,696.52; Deerfield, \$3,696.63; Erving, \$2,675.56; Gill, \$6,117.93; Greenfield, \$6,503.98; Hawley, \$2,464.42; Heath, \$2,464.42; Leverett, \$2,464.42; Leyden, \$2,464.42; Monroe, \$1,232.21; Montague, \$11,200.02; New Salem, \$6160.93; North-

field, \$2,464.42; Orange, \$21,308.72; Rowe, \$2,464.42; Shelburne, \$1,232.21; Shutesbury, \$2,464.42; Sunderland, \$4,928.84; Warwick, \$8,625.38; Wendell, \$6,777.16.

Hampden County.—Agawam, \$3,149.03; Blandford, \$5,048.58; Brimfield, \$6,143.50; Chester, \$24,244.45; Chicopee, \$14,495.87; East Longmeadow, \$6,777.16; Granville, \$12,327.16; Hampden, \$10,349.25; Holland, \$5,768.37; Longmeadow, \$11,768.87; Ludlow, \$7,622.27; Monson, \$3,557.31; Montgomery, \$6,160.31; Palmer, \$4,168.29; Southwick, \$10,767.97; Springfield, \$17,063.47; Tolland, \$7,393.26; Wales, \$3,523.30; Westfield, \$17,497.39; West Springfield, \$17,834.15; Wilbraham, \$6,772.18.

Hampshire County.—Amherst, \$13,348.30; Belchertown, \$55,584.27; Chesterfield, \$7,020.52; Cummington, \$6,129.40; Enfield, \$2,526.03; Goshen, \$3,696.63; Granby, \$4,928.84; Greenwich, \$924.16; Huntington, \$7,146.82; Middlefield, \$10,589.56; Northampton, \$8,625.47; Pelham, \$11,338.93; Plainfield, \$23,637.26; Southampton, \$5,878.83; South Hadley, \$1,564.22; Ware, \$4,928.84; Westhampton, \$9,241.58; Williamsburg, \$11,585.50; Worthington, \$6,043.25.

Middlesex County.—Acton, \$7,085.21; Arlington, \$26,083.18; Ashby, \$1,232.21; Ashland, \$2,463.73; Ayer, \$6,646.84; Bedford, \$1,478.65; Belmont, \$11,313.34; Billerica, \$22,368.41; Boxboro, \$2,772.48; Burlington, \$11,335.38; Carlisle, \$5,175.25; Chelmsford, \$7,293.86; Concord, \$14,828.80; Dracut, \$6,777.16; Dunstable, \$4,280.43; Framingham, \$21,460.23; Groton, \$12,519.59; Holliston, \$1,868.68; Hopkinton, \$7,208.22; Hudson, \$40,352.57; Lexington, \$5,853.00; Lincoln, \$2,248.78; Littleton, \$5,421.49; Lowell, \$640.85; Malden, \$11,974.50; Marlboro, \$4,436.10; Melrose, \$1,330.49; Natick, \$4,922.43; No. Reading, \$8,009.30; Pepperell, \$7,393.26; Reading, \$11,424.63; Sherborn, \$26,643.44; Shirley, \$2,224.21; Stoneham, \$12,616.81; Stow, \$1,478.65; Sudbury, \$3,696.07; Tewksbury, \$7,793.53; Townsend, \$6,774.84; Tyngsboro, \$13,549.52; Wakefield, \$11,958.53; Waltham, \$612.58; Watertown, \$10,319.16; Wayland, \$11,670.38; Westford, \$14,415.20; Wilmington, \$4,946.61; Winchester, \$30,547.35.

Norfolk County.—Bellingham, \$2,903.28; Foxboro, \$10,350.57; Franklin, \$8,956.57; Medfield, \$1,232.20; Medway, \$903.62; Millis, \$1,804.46; Needham, \$8,117.05; Norfolk, \$3,368.12; Plainville, \$1,481.77; Walpole, \$8,912.55; Weymouth, \$13,674.83; Wrentham, \$7,886.15.

Plymouth County.—Bridgewater, \$5,530.86; Brockton, \$13,528.48; Carver, \$2,464.42; Hanover, \$6,651.62; Lakeville, \$1,847.89; Marion, \$2,464.42; Marshfield, \$5,725.15; Middleboro, \$2,879.45; Pembroke, \$4,928.84; Rockland, \$11,715.98; West Bridgewater, \$7,327.86.

Worcester County.—Ashburnham, \$3,926.20; Athol, \$1,848.32; Auburn, \$10,935.13; Barre, \$6,951.43; Berlin, \$11,034.72; Blackstone, \$6,811.97; Bolton, \$17,809.17; Boylston, \$21,013.75; Brookfield, \$2,731.97; Charlton, \$3,997.75; Clinton, \$9,368.59; Dana, \$6,713.49; Douglas, \$5,534.98; Dudley, \$3,755.88; East Brookfield, \$3,265.36; Grafton, \$2,427.89; Hardwick, \$5,426.41; Harvard, \$3,695.29; Holden, \$6,371.21; Hubbardston, \$10,520.95; Leicester, \$4,928.67; Leomister, \$633.02; Lunenburg, \$8,210.35; Mendon, \$8,023.83; Milford, \$7,464.52; Millville, \$5,360.65; New Braintree, \$2,956.04; N. Brookfield, \$6,402.86; Northboro, \$352.46; Northbridge, \$11,171.12; Oakham, \$7,380.73; Oxford, \$1,399.53; Paxton, \$6,703.50; Petersham, \$4,304.15; Phillipston, \$6,620.62; Princeton, \$7,036.67; Royalston, \$6,407.45; Rutland, \$7,021.38; Shrewsbury, \$6,375.89; Southboro, \$1,879.12; Southbridge, \$15,929.77; Spencer, \$3,442.09; Sterling, \$11,900.92; Sturbridge, \$2,969.80; Sutton, \$14,237.48; Templeton, \$5,065.42; Upton, \$14,044.00; Uxbridge, \$12,094.76; Warren, \$2,118.59; West Boylston, \$7,822.91; West Brookfield, \$5,485.83; Westboro, \$985.77; Westminster, \$9,581.83; Winchendon, \$1,394.39.

REPAIR AND IMPROVEMENT OF PUBLIC WAYS, EXCLUSIVE OF STATE HIGHWAYS, IN CERTAIN TOWNS.

(Sections 26 to 29 and 31 of Chapter 81, General Laws, as amended)

During the year the Department contracted for work to be done in the towns named in the following table, which also shows the road mileage in the towns and the allotments or contributions by the State and towns:

Counties and Towns	Miles of Road	Allotment	
		State	Town
<i>Barnstable County:</i>			
Brewster	40	\$4,000 00	\$4,000 00
Dennis	79	7,900 00	7,900 00
Eastham	41	4,100 00	3,075 00
Mashpee	27	2,700 00	2,025 00
Sandwich	67	6,700 00	6,700 00
Truro	29	2,900 00	3,625 00
Wellfleet	36	3,600 00	4,500 00
<i>Berkshire County:</i>			
Alford	19	1,900 00	760 00
Becket	58	5,800 00	2,320 00
Cheshire	42	4,200 00	4,200 00
Clarksburg	14	1,400 00	2,100 00
Egremont	32	3,200 00	2,400 00
Florida	43	4,300 00	3,225 00
Hancock	30	3,000 00	1,200 00
Hinsdale	35	3,500 00	2,625 00
Lanesborough	42	4,200 00	3,150 00
Monterey	52	5,200 00	2,080 00
Mount Washington	20	2,000 00	500 00
New Ashford	9	900 00	360 00
New Marlborough	85	8,500 00	3,400 00
Otis	49	4,900 00	1,225 00
Peru	37	3,700 00	555 00
Richmond	34	3,400 00	1,700 00
Sandisfield	79	7,900 00	1,185 00
Savoy	56	5,600 00	840 00
Sheffield	77	7,700 00	3,850 00
Tyringham	25	2,500 00	1,000 00
Washington	51	5,100 00	765 00
West Stockbridge	36	3,600 00	2,700 00
Windsor	65	6,500 00	975 00
<i>Bristol County:</i>			
Berkley	42	4,200 00	2,100 00
Freetown	47	4,700 00	3,525 00
Norton	57	5,700 00	5,700 00
Raynham	45	4,500 00	4,500 00
*Swansea	56	5,600 00	8,400 00
*Rehoboth	109	10,900 00	5,450 00
<i>Dukes County:</i>			
Chilmark	14	1,400 00	1,400 00
West Tisbury	13	1,300 00	1,950 00
<i>Essex County:</i>			
Boxford	53	5,300 00	2,650 00
Essex	21	2,100 00	3,150 00
Georgetown	35	3,500 00	4,375 00

Counties and Towns	Miles of Road	Allotment	
		State	Town
Groveland	30	3,000 00	3,750 00
Merrimac	31	3,100 00	4,650 00
Middleton	30	3,000 00	4,500 00
Newbury	37	3,700 00	4,625 00
Rowley	31	3,100 00	3,100 00
Topsfield	38	3,800 00	5,700 00
West Newbury	37	3,700 00	2,775 00
<i>Franklin County:</i>			
Ashfield	81	8,100 00	3,240 00
Bernardston	40	4,000 00	3,000 00
Buckland	45	4,500 00	5,625 00
Charlemont	49	4,900 00	2,450 00
Colrain	84	8,400 00	3,360 00
Conway	72	7,200 00	2,880 00
Deerfield	74	7,400 00	9,250 00
Gill	34	3,400 00	2,550 00
Hawley	49	4,900 00	735 00
Heath	53	5,300 00	795 00
Leverett	38	3,800 00	1,520 00
Leyden	39	3,900 00	585 00
Monroe	18	1,800 00	2,250 00
Northfield	66	6,600 00	4,950 00
New Salem	64	6,400 00	960 00
Rowe	41	4,100 00	1,640 00
Shelburne	48	4,800 00	6,000 00
Shutesbury	40	4,000 00	1,000 00
Warwick	55	5,500 00	825 00
Wendell	48	4,800 00	2,400 00
<i>Hampden County:</i>			
Blandford	78	7,800 00	1,950 00
Brimfield	59	5,900 00	2,950 00
Chester	68	6,800 00	3,400 00
Granville	72	7,200 00	5,400 00
Hampden	34	3,400 00	1,700 00
Holland	30	3,000 00	450 00
Monson	101	10,100 00	7,575 00
Montgomery	27	2,700 00	675 00
Southwick	50	5,000 00	5,000 00
Tolland	41	4,100 00	615 00
Wales	25	2,500 00	1,000 00
Wilbraham	43	4,300 00	6,450 00
<i>Hampshire County:</i>			
Belchertown	112	11,200 00	4,480 00
Chesterfield	59	5,900 00	1,475 00
Cummington	49	4,900 00	1,225 00
Enfield	37	3,700 00	1,480 00
Goshen	28	2,800 00	700 00
Hadley	58	5,800 00	7,250 00
Granby	48	4,800 00	2,400 00
Greenwich	39	3,900 00	1,560 00
Huntington	41	4,100 00	3,075 00
Middlefield	41	4,100 00	615 00
Pelham	39	3,900 00	1,560 00
Plainfield	49	4,900 00	735 00

Counties and Towns	Miles of Road	Allotment	
		State	Town
Prescott	39	3,900 00	585 00
Southampton	56	5,600 00	2,240 00
Westhampton	50	5,000 00	750 00
Williamsburg	43	4,300 00	3,225 00
Worthington	68	6,800 00	1,020 00
<i>Middlesex County:</i>			
Acton	58	5,800 00	8,700 00
Ashby	56	5,600 00	2,240 00
Ashland	38	3,800 00	5,700 00
Bedford	35	3,500 00	5,250 00
Boxborough	23	2,300 00	920 00
Burlington	34	3,400 00	5,100 00
Carlisle	42	4,200 00	3,150 00
Dracut	61	6,100 00	9,150 00
Dunstable	37	3,700 00	925 00
Groton	70	7,000 00	10,500 00
Holliston	50	5,000 00	7,500 00
Hopkinton	66	6,600 00	6,600 00
Lincoln	40	4,000 00	6,000 00
Littleton	42	4,200 00	5,250 00
North Reading	31	3,100 00	4,650 00
Pepperell	68	6,800 00	6,800 00
Sherborn	43	4,300 00	4,300 00
Shirley	46	4,600 00	4,600 00
Stow	45	4,500 00	3,375 00
Sudbury	64	6,400 00	4,800 00
Tewksbury	56	5,600 00	8,400 00
Townsend	70	7,000 00	5,250 00
Tyngsborough	40	4,000 00	3,000 00
Westford	85	8,500 00	10,625 00
<i>Norfolk County:</i>			
Bellingham	44	4,400 00	6,600 00
Medfield	40	4,000 00	6,000 00
Medway	44	4,400 00	6,600 00
Millis	39	3,900 00	5,850 00
Norfolk	41	4,100 00	4,100 00
Plainville	32	3,200 00	4,000 00
<i>Plymouth County:</i>			
Carver	68	6,800 00	6,800 00
Halifax	34	3,400 00	3,400 00
Hanson	36	3,600 00	5,400 00
Lakeville	42	4,200 00	3,150 00
Norwell	47	4,700 00	4,700 00
Pembroke	48	4,800 00	6,000 00
Plympton	30	3,000 00	1,500 00
Rochester	50	5,000 00	3,750 00
<i>Worcester County:</i>			
Ashburnham	75	7,500 00	5,625 00
Barre	110	11,000 00	8,250 00
Berlin	39	3,900 00	2,925 00
Blackstone	34	3,400 00	5,100 00
Bolton	53	5,300 00	2,650 00
Boylston	40	4,000 00	3,000 00

Counties and Towns	Miles of Road	Allotment	
		State	Town
Brookfield	37	3,700 00	3,700 00
Charlton	116	11,600 00	4,640 00
Dana	43	4,300 00	1,720 00
Douglas	70	7,000 00	5,250 00
Dudley	63	6,300 00	7,875 00
East Brookfield	19	1,900 00	2,375 00
Grafton	68	6,800 00	10,200 00
Hardwick	96	9,600 00	7,200 00
Harvard	56	5,600 00	5,600 00
Holden	77	7,700 00	7,700 00
Hubbardston	75	7,500 00	1,875 00
Lancaster	58	5,800 00	7,250 00
Leicester	66	6,600 00	8,250 00
Lunenburg	66	6,600 00	4,950 00
Mendon	36	3,600 00	3,600 00
New Braintree	49	4,900 00	1,225 00
North Brookfield	69	6,900 00	6,900 00
Northborough	46	4,600 00	4,600 00
Oakham	45	4,500 00	1,125 00
Oxford	66	6,600 00	8,250 00
Paxton	29	2,900 00	2,175 00
Petersham	70	7,000 00	3,500 00
Phillipston	41	4,100 00	1,025 00
Princeton	72	7,200 00	2,880 00
Royalston	67	6,700 00	1,675 00
Rutland	68	6,800 00	3,400 00
Southborough	45	4,500 00	6,750 00
Spencer	100	10,000 00	12,500 00
Sterling	72	7,200 00	5,400 00
Sturbridge	70	7,000 00	3,500 00
Sutton	84	8,400 00	4,200 00
Templeton	63	6,300 00	7,875 00
Upton	60	6,000 00	4,500 00
Warren	71	7,100 00	8,875 00
West Boylston	35	3,500 00	5,250 00
West Brookfield	53	5,300 00	3,975 00
Westborough	57	5,700 00	8,550 00
Westminster	77	7,700 00	3,080 00

EXPENDITURES FOR REPAIR AND IMPROVEMENT OF PUBLIC WAYS

The expenditures during the year in various Counties were:—

Barnstable, \$32,763.89	Hampden, \$68,996.61
Berkshire, \$109,474.33	Hampshire, \$93,087.88
Bristol, \$39,614.04	Middlesex, \$132,274.53
Dukes, \$3,192.59	Norfolk, \$25,779.72
Essex, \$35,043.94	Plymouth, \$38,256.93
Franklin, \$115,299.03	Worcester, \$270,729.66
	Total, \$964,513.15

Details of the foregoing expenditures follow:

Barnstable County.—Brewster, \$4,102.97; Dennis, \$7,563.83; Eastham, \$4,549.18; Mashpee, \$2,786.10; Sandwich, \$6,992.45; Truro, \$3,047.30; Wellfleet, \$3,722.06.

Berkshire County.—Alford, \$1,496.47; Becket, \$7,101.71; Cheshire, \$4,178.07; Clarksburg, \$1,692.59; Egremont, \$3,017.37; Florida, \$4,493.72; Hancock, \$3,871.19; Hinsdale, \$3,590.31; Lanesboro, \$4,712.75; Monterey,

\$5,805.16; Mt. Washington, \$2,003.32; New Ashford, \$810.81; New Marlboro, \$9,960.50; Otis, \$4,955.80; Peru, \$3,610.46; Richmond, \$4,132.33; Sandisfield, \$9,490.12; Savoy, \$6,156.91; Sheffield, \$8,879.67; Tyringham, \$2,573.66; Washington, \$5,678.26; West Stockbridge, \$3,918.77; Windsor, \$7,344.38.

Bristol County.—Berkley, \$5,440.76; Freetown, \$5,115.11; Norton, \$6,203.43; Raynham, \$4,897.44; Rehoboth, \$11,862.70; Swansea, \$6,094.60.

Dukes County.—Chilmark, \$1,712.47; West Tisbury, \$1,480.12.

Essex County.—Boxford, \$5,768.10; Georgetown, \$3,809.12; Groveland, \$3,264.96; Merrimac, \$3,373.80; Middleton, \$3,264.96; Newbury, \$4,026.79; Rowley, \$3,373.80; Topsfield, \$4,135.62; West Newbury, \$4,026.79.

Franklin County.—Ashfield, \$8,080.78; Bernardston, \$4,353.27; Buckland, \$5,060.69; Charlemont, \$4,843.03; Colrain, \$9,794.12; Conway, \$8,372.29; Deerfield, \$7,971.95; Gill, \$3,781.92; Hawley, \$5,332.77; Heath, \$5,768.10; Leverett, \$4,026.79; Leyden, \$4,244.45; Monroe, \$1,904.56; New Salem, \$6,992.46; Northfield, \$6,747.59; Rowe, \$4,353.28; Shelburne, \$6,421.09; Shutesbury, \$4,217.24; Sunderland, \$244.87; Warwick, \$5,686.48; Wendell, \$5,958.56; Whately, \$1,142.74.

Hampden County.—Blandford, \$8,897.70; Brimfield, \$6,572.87; Chester, \$7,609.83; Granville, \$7,835.77; Hampden, \$3,455.42; Holland, \$2,882.54; Monson, \$11,406.89; Montgomery, \$3,295.09; Southwick, \$5,441.61; Tolland, \$4,634.98; Wales, \$2,311.34; Wilbraham, \$4,652.57.

Hampshire County.—Belchertown, \$12,188.72; Chesterfield, \$6,419.58; Cummington, \$5,332.75; Enfield, \$3,342.31; Goshen, \$3,047.30; Granby, \$4,870.24; Greenwich, \$4,434.59; Hadley, \$6,312.23; Hatfield, \$1,224.36; Huntington, \$4,190.43; Middlefield, \$4,462.12; Pelham, \$4,162.83; Plainfield, \$5,332.77; Prescott, \$3,645.88; Southampton, \$6,094.60; Westhampton, \$5,441.60; Williamsburg, \$4,679.78; Worthington, \$7,905.79.

Middlesex County.—Acton, \$6,312.26; \$6,094.60; Ashland, \$4,135.62; Bedford, \$3,809.12; Boxboro, \$2,503.14; Burlington, \$3,700.29; Carlisle, \$4,570.95; Dracut, \$6,638.76; Dunstable, \$4,026.79; Groton, \$7,618.25; Holliston, \$5,441.60; Hopkinton, \$8,858.93; Lincoln, \$4,353.28; Littleton, \$4,570.95; No. Reading, \$3,373.80; Pepperell, \$7,400.58; Sherborn, \$4,679.78; Shirley, \$5,006.28; Stow, \$4,897.44; Sudbury, \$6,965.25; Tewksbury, \$6,094.60; Townsend, \$7,618.25; Tyngsboro, \$4,353.28; Westford, \$9,250.73.

Norfolk County.—Bellingham, \$4,448.63; Medfield, \$4,353.28; Medway, \$4,788.61; Millis, \$4,244.45; Norfolk, \$4,462.12; Plainville, \$3,482.63.

Plymouth County.—Carver, \$7,236.59; Halifax, \$4,002.87; Hanson, \$4,256.02; Lakeville, \$4,521.61; Norwell, \$4,944.69; Pembroke, \$4,750.42; Plympton, \$3,270.79; Rochester, \$5,273.94.

Worcester County.—Ashburnham, \$7,817.80; Barre, \$11,330.82; Berlin, \$3,843.80; Bolton, \$5,554.63; Boylston, \$4,361.00; Brookfield, \$4,431.60; Charlton, \$12,725.18; Dana, \$4,237.90; Douglas, \$6,658.55; Dudley, \$6,856.42; East Brookfield, \$1,929.63; Grafton, \$6,506.09; Harvard, \$6,094.60; Hardwick, \$10,273.47; Holden, \$7,552.08; Hubbardston, \$7,351.04; Lancaster, \$6,312.26; Leicester, \$6,358.65; Lunenburg, \$7,434.82; Mendon, \$3,836.32; New Braintree, \$4,410.14; No. Brookfield, \$5,807.44; Northboro, \$5,006.28; Oakham, \$4,157.49; Oxford, \$5,281.86; Paxton, \$3,250.03; Petersham, \$7,618.25; Phillipston, \$4,462.12; Princeton, \$6,704.75; Royalston, \$7,286.36; Rutland, \$6,039.51; Southboro, \$4,706.41; Spencer, \$11,779.99; Sterling, \$7,786.41; Sturbridge, \$6,292.57; Sutton, \$7,701.31; Templeton, \$6,063.80; Upton, \$5,382.90; Warren, \$7,696.49; West Boylston, \$3,260.89; West Brookfield, \$4,276.10; Westboro, \$6,203.43; Westminster, \$8,088.47.

HIGHWAY IMPROVEMENTS AUTHORIZED BY SPECIAL ACTS

In accordance with the provisions of Chapter 347, Acts of 1933, the following contract was entered into:—

Quincy-Weymouth, September 27, 1933, contract made with Blakeslee Rollins Corporation, of Boston, for furnishing and erecting a temporary bridge with approaches over Fore River; the surface of the approaches consisting of bituminous macadam. The proposal amounted to \$86,924.10. Work about one-fourth completed. Expenditure during 1933, \$29,806.61.

In accordance with the provisions of Chapter 445, Acts of 1931, as amended by Chapter 258, Acts of 1932, the following contract was entered into:—

Revere, February 28, 1933, contract made with C & R Construction Company, of Boston, for constructing and reconstructing about 5,980 feet of State and City Highway; the surface consisting of bituminous macadam. The proposal amounted to \$131,909.84. Work completed October 7, 1933. Expenditure during 1933, \$123,407.99.

In accordance with the provisions of Chapter 302, Acts of 1932, the following contract was entered into:—

Cambridge-Arlington-Belmont, October 25, 1933, contract made with B. Perini & Sons, Inc., of Framingham, for constructing about 8,220 feet of State highway on new location in Cambridge, Arlington and Belmont; and constructing a reinforced concrete bridge over Alewife Brook at the dividing line between the town of Arlington and city of Cambridge, a three-span steel stringer bridge over the Boston & Maine Railroad in Arlington, and a two-span steel stringer bridge under Pleasant Street at the dividing line between the towns of Arlington and Belmont; the surface of the roadway consisting of sections of reinforced cement concrete, bituminous macadam, and reinforced cement concrete on each side of bituminous macadam section, and the surface over the bridges consisting of bituminous concrete. The proposal amounted to \$556,931.18. Work just commenced. Expenditure during 1933, \$23,898.00.

In accordance with the provisions of Chapter 420, Acts of 1930, as amended by Chapter 454, Acts of 1931, the following contract was entered into:—

Boston, November 23, 1933, contract made with A. G. Tomasello & Son, Inc., of Boston, for constructing about 1,568 feet of State highway on Water Street; the surface consisting of cement concrete "Sheet Type" in the center and one lane of bituminous macadam on each side. The proposal amounted to \$36,546.40. Work not yet commenced.

NEW OFFICE BUILDING FOR DEPARTMENT OF PUBLIC WORKS AND WORK INCIDENTAL THERETO

April 11, 1933, contract made with the Laboratory Furniture Co., Inc., of New York, for furnishing, building and installing laboratory furniture. The proposal amounted to \$2,282.20. Work completed July 21, 1933. Expenditure during 1933, \$2,084.57.

April 18, 1933, contract made with the Allen Shade Holder Company, Inc., of Boston, for furnishing and installing window shades. The proposal amounted to \$2,054.57. Work completed August 12, 1933. Expenditure during 1933, \$3,015.57.

April 28, 1933, contract made with The Massachusetts Motor Trucking & Garage Co., of Boston, for moving furniture and equipment of the Engineering and Main Offices of the Department of Public Works. The proposal amounted to \$1,891.75. Work completed May 23, 1933. Expenditure during 1933, \$1,980.15.

May 9, 1933, contract made with The E. F. Hauserman Company, of Boston, for dismantling and re-assembling office partitions for the Engineering Offices of the Department of Public Works. The proposal

amounted to \$394.00. Work completed July 29, 1933. Expenditure during 1933, \$574.00.

June 21, 1933, contract made with Snead & Company, of Boston, for furnishing and installing metal partitions. The proposal amounted to \$9,950.00. Work completed January 15, 1934. Expenditure during 1933, \$8,037.10.

Nov. 21, 1933, contract made with the Allen Shade Holder Company, Inc., of Boston, for furnishing and installing window shades. The proposal amounted to \$1,388.29. Work not yet commenced.

Nov. 21, 1933, contract made with Snead & Company, of Boston, for furnishing and erecting steel office partitions. The proposal amounted to \$13,301.50. Work not yet commenced.

Nov. 29, 1933, contract made with F. E. Berry Jr. & Co. Inc., of Boston, for furnishing and installing acoustical treatment on ceilings. The proposal amounted to \$2,400.00. Work not yet commenced.

MISCELLANEOUS CONTRACTS

Boston-Brookline.—April 18, 1933, contract made with the Bay State Tree Surgery Company, of Lancaster, for furnishing and planting trees on the West Roxbury Parkway. The proposal amounted to \$3,435.88. Work completed May 20, 1933. Expenditure during 1933, \$3,195.70.

Revere.—June 14, 1933, contract made with McGunigle & Tounge, Inc., of Boston, for furnishing in place conduits, combinations post boxes and cables on Beach Street, Winthrop Avenue and Ocean Avenue. The proposal amounted to \$2,173.00. Work completed September 5, 1933. Expenditure during 1933, \$2,263.56.

TRANSFER OF PORTION OF GASOLINE TAX UNDER PROVISIONS OF CHAPTER 370, ACTS OF 1933

The state treasurer is hereby authorized and directed to transfer the sum of eight million, twenty-eight thousand three hundred and twenty dollars from the Highway Fund to the General Fund.

THE REGULATION OF ADVERTISING SIGNS AND DEVICES WITHIN THE PUBLIC VIEW

(Sections 29-33, Chapter 93, General Laws, as amended)

In accordance with the provisions of sections 29 to 33 inclusive, chapter 93, General Laws, as amended by chapters 85, 237, 334 and 490, Acts of 1924, providing for the control of billboards and other advertising devices on public ways or on private property within public view of any highway, public park or reservation, the Department adopted on Jan. 24, 1924, certain new rules and regulations, superseding all former issues; and these have continued in force during the present year.

Applications, Licenses and Permits.—Licenses were granted to 25 individuals and others to engage in the business of advertising in the Commonwealth by the use of outdoor signs.

Of 342 applications received for permits for the erection of advertising signs, 175 permits have been granted; and 29 permits were granted on applications filed previous to 1933. Sixty-one (61) applications for the erection of new signs were not approved because the locations were in violation of the rules and regulations adopted Jan. 24, 1924; and 23 applications for permits were cancelled.

Of 2,888 renewal applications sent to those whose permits were to expire June 30, 1933, 2,617 were returned to the Department requesting renewal; and on account of the advertisers failing to renew, 271 permits were cancelled. The number of renewal applications approved, to be in force until June 30, 1934 was 2,861. The total number of permits in force November 30, 1933, was 2,971.

Receipts and Expenditures.—The total receipts for the year ending

November 30, 1933, were \$13,231.92 and the expenditures were \$21,092.36, excess of the expenditures over the receipts being due to printing and extra services rendered in connection with litigation now pending before the Mass. Supreme Court—Suffolk County No. 42843. Eq.

The Removal of Signs.—The “sign Patrol” consisting of small trucks completely equipped for the work, have removed 140,000 signs during the year in addition to 10,000 removed by other agents of the Department, under authority of section 30 A, Chapter 93, General Laws, from within the highways and from private property.

Injunction.—On June 19, 1925, a temporary injunction was granted the General Outdoor Advertising Company, Inc., and others, as complainants enjoining and restraining the Commissioners, constituting the Department of Public Works, for the Commonwealth, until the further order of the Court, from proceeding in any way against them for any alleged failure to comply with the Rules and Regulations for the control and restriction of the billboards, signs and other devices, promulgated under date of Jan. 24, 1924. This injunction is still in force and will be until the case is settled in Court.

Hearings.—Hearings were given to officials of Brookline, Leominster, Lexington, Stoneham, Winchester.

CONTRACT PRICES DEC. 1, 1932, TO NOV. 30, 1933

TOWN OR CITY	CONTRACTOR	EXCAVATION			BORROW		Plain Concrete Masonry (Cu. Yd.)	Asphalt (Gal.)
		Earth (Cu. Yd.)	Ledge (Cu. Yd.)	Trench (Cu. Yd.)	Ord. (Cu. Yd.)	Gravel (Cu. Yd.)		
*Amesbury . . .	J. E. Watkins Co. . .	\$0 25	\$1 25	\$0 65	\$0 20	\$0 25	\$14 00	\$0 09
Arlington . . .	A. & P. Construction Co. . .	0 25	1 50	-	-	0 25	-	0 085
*Arlington, Belmont & Cambridge . .	B. Perini & Sons . . .	0 33	2 00	0 75	0 39	0 71	13 00	0 085
*Ashby & Town- send . . .	G. Rotundi & Son . . .	0 35	1 70	0 80	-	0 40	14 00	0 105
†Barre . . .	R. H. Newell Co. . .	0 30	1 50	0 90	-	0 30	15 00	-
*Boston-Hyde Park Bourne . . .	A. G. Tomasello & Son . .	0 30	1 00	0 75	0 30	0 60	12 00	0 09
*Brookline & Newton	Arute Bros., Inc. . .	0 20	2 00	0 40	0 10	0 20	12 00	0 09
*Burlington, Win- chester & Woburn	Coleman Bros. . .	0 22	1 25	1 00	0 22	0 28	13 00	0 08
*Charlton & Oxford	M. McDonough . . .	0 25	1 50	0 75	-	0 40	10 00	0 09
*Chester . . .	Lane Construction Corp. .	0 60	0 60	2 00	-	0 65	20 00	0 10
Clinton . . .	National Construction Co. .	0 75	-	2 00	0 40	0 40	16 00	0 11
*Cohasset & Scitu- ate . . .	Menici Construction Co. .	0 25	3 00	1 00	-	0 35	15 00	0 09
Colrain . . .	C. M. Callahan, Inc. . .	0 20	1 00	0 50	0 20	0 30	12 00	0 08
*Conway & Deer- field . . .	N. Beacco & Son . . .	0 40	1 30	2 00	0 35	-	10 00	0 14
*East Boston & Re- vere . . .	Kelleher Corp. . .	0 75	0 75	1 10	0 20	0 45	15 00	0 10
Eastham . . .	A. G. Tomasello . . .	0 45	3 00	1 00	0 45	0 85	15 00	0 085
*Easton & Stoughton	S. W. Lawrence . . .	0 22	-	0 50	0 22	-	15 00	0 12
Hancock . . .	C. Bianchi & Co. . .	0 35	1 75	0 80	0 35	0 40	18 00	0 115
*Huntington . . .	Kelleher Corp. . .	0 28	0 28	0 75	0 28	0 37	12 00	0 10
*Lanesboro & Pitts- field . . .	Lane Construction Corp. .	0 40	0 40	1 25	0 10	0 60	17 00	0 09
*Lawrence & North Andover . . .	Lane Construction Corp. .	0 30	0 30	0 50	0 30	0 40	18 00	0 10
*Lynn & Revere . .	S. Rotundi & Sons . . .	0 30	2 00	0 80	-	0 50	16 00	0 12
*Marshfield & Scit- uate . . .	Crandall Engineering Co. .	-	1 00	1 00	0 35	0 75	-	-
†Mattapoisett . .	Lee Construction Co. . .	0 35	2 00	1 25	0 25	0 42	20 00	0 105
Middleboro . . .	State Forces . . .	0 45	2 00	0 80	0 35	0 47	14 00	0 11
*Newbury . . .	Arute Bros., Inc. . .	0 15	1 00	0 40	-	0 10	10 00	0 079
Orange . . .	E. H. Lewis . . .	0 15	4 00	0 65	-	0 37	10 00	0 10
†Oxford & Webster	E. Barilone Co. . .	0 30	2 00	0 45	-	0 35	10 00	0 12
Pelham . . .	C. & R. Construction Co., Inc.	0 30	0 30	0 70	0 30	0 30	10 00	0 08
Pittsfield . . .	Kelleher Corp. . .	0 45	2 50	1 10	0 40	0 50	16 00	0 10
Pittsfield . . .	C. B. Lindholm . . .	0 25	0 25	0 60	0 25	0 40	15 00	0 10
*Quincy & Wey- mouth . . .	Lee Construction Co., Inc. .	0 20	1 50	0 60	-	0 30	-	0 10
Rehoboth . . .	Blakeslee & Rollins Corp. .	0 28	-	0 75	0 60	0 50	10 00	0 09
Revere (Secs. 2 & 3)	E. F. Jones . . .	0 15	3 00	0 20	0 30	0 30	12 00	0 09
Sherborn . . .	C. & R. Construction Co. .	0 20	0 01	0 40	0 25	0 48	10 00	0 07
Southampton . .	E. H. Lewis . . .	0 25	4 00	0 30	0 32	0 32	15 00	0 09
*Sterling-West Boylston . . .	D. O'Connells' Sons . . .	0 30	0 38	1 25	0 40	0 65	15 50	-
*Templeton . . .	M. Pandolph Co. . .	0 39	5 00	1 25	0 39	0 39	20 00	0 095
Wareham . . .	Lane Construction Co. . .	0 50	0 50	1 25	0 25	0 50	16 00	0 09
Williamsburg . .	S. W. Lawrence . . .	0 28	2 00	0 80	-	0 35	15 00	0 10
Williamstown . .	M. Siano & Son . . .	0 29	0 90	-	0 22	0 65	-	0 12
†Yarmouth . . .	J. F. Fitz-Gerald . . .	0 25	1 10	0 80	0 22	0 30	12 00	0 10
	S. W. Lawrence . . .	0 10	2 00	0 50	0 10	-	15 00	0 09

† (Barre) Later awarded to Town Forces.

† (Mattapoisett) State Force Job on basis of low bid.

‡ Federal Aid Emergency construction projects.

* N. R. A. projects.

CONTRACT PRICES DEC. 1, 1932, TO NOV. 30, 1933

Concrete Surface (Cu. Yd.)	Broken Stone (Cu. Yd.)	Cable Guard Rail (Lin. Ft.)	PIPE CULVERTS (lineal feet)								Stock Fence (Lin. Ft.)	Catch Basins (Each)	Reinf. Conc. Ma- sonry (Cu. Yd.)	Reinf. Steel for Struct (Lb.)
			CLAY			REINF. CONCRETE								
			10 in.	12 in.	15 in.	12 in.	15 in.	18 in.	24 in.					
-	\$1 20	\$0 42	-	\$0 45	-	\$0 70	-	-	-	\$0 15	\$50 00	\$14 00	\$0 05	
-	1 20	-	-	-	-	-	-	-	-	-	-	-	-	
\$7 73	1 70	-	-	0 60	-	0 95	\$1 50	\$1 70	\$2 65	0 18	47 00	13 25	0 035	
-	2 25	0 45	\$0 40	0 52	-	0 90	1 40	1 80	-	0 20	42 00	17 00	0 05	
-	-	0 40	-	-	-	-	-	-	-	0 15	-	15 00	0 06	
7 75	1 50	-	0 45	0 60	-	-	-	-	-	-	60 00	-	-	
-	2 00	0 35	-	-	-	-	-	-	-	0 12	30 00	-	-	
5 00	1 60	-	0 40	0 50	\$1 00	1 00	-	-	2 50	-	48 00	13 00	0 035	
-	1 30	0 60	-	0 55	1 00	0 85	1 20	1 60	2 80	0 20	50 00	10 00	0 10	
-	2 35	0 45	-	-	0 90	1 00	-	2 00	3 00	0 15	60 00	20 00	0 05	
-	2 00	-	-	-	-	-	-	-	2 75	0 17	-	18 00	0 07	
-	1 80	0 45	-	-	-	0 75	-	-	-	-	45 00	-	-	
-	1 50	0 40	-	0 40	-	0 75	1 00	1 25	1 75	0 15	35 00	15 00	0 03	
-	-	0 40	-	-	-	-	-	-	-	-	35 00	12 00	0 03	
-	1 65	0 40	0 40	0 50	0 90	0 90	1 25	1 70	2 50	0 15	55 00	17 00	0 045	
7 25	1 00	-	0 40	0 55	0 90	0 85	1 15	1 50	2 30	0 15	50 00	11 00	0 035	
-	-	0 50	-	-	-	0 90	-	-	-	0 16	50 00	-	-	
7 15	2 00	0 50	0 50	0 55	-	1 05	1 50	2 00	-	-	60 00	18 00	0 05	
-	2 25	0 35	-	-	-	-	-	-	-	0 15	-	14 50	0 04	
-	1 50	0 40	-	-	-	0 75	-	1 30	2 00	0 15	-	17 00	0 04	
6 25	2 25	0 45	-	0 60	-	0 85	-	1 50	3 00	-	55 00	18 00	0 05	
7 50	2 00	0 50	0 50	0 60	-	-	1 60	-	-	0 20	50 00	See	-	
-	-	-	0 50	0 70	-	-	-	-	-	-	50 00	Bridge	0 04	
-	1 85	0 45	0 45	0 55	0 90	1 00	-	-	-	0 16	50 00	Items	0 05	
-	2 00	0 40	0 40	0 50	0 90	0 90	-	1 60	-	0 15	45 00	16 00	0 05	
-	2 00	0 05	-	0 35	-	0 60	-	1 50	-	0 15	30 00	-	-	
-	1 50	0 30	0 50	0 60	0 90	0 85	1 50	1 70	2 50	0 13	40 00	15 00	0 05	
-	2 00	-	0 40	0 50	1 50	-	-	-	3 50	-	40 00	12 00	0 04	
-	1 95	0 40	-	0 35	-	0 65	-	1 15	-	0 14	35 00	12 00	0 03	
-	1 60	0 45	-	0 55	-	-	-	-	-	0 15	-	16 00	0 06	
-	1 90	0 45	-	0 60	0 90	0 70	-	1 50	2 00	-	40 00	20 00	0 10	
6 10	2 50	0 40	-	0 40	-	0 80	-	-	-	0 14	35 00	10 20	0 029	
-	1 80	-	-	-	-	-	-	-	-	-	-	15 00	0 04	
-	1 50	-	-	-	-	-	-	-	-	0 14	-	-	-	
6 00	1 35	-	0 28	0 35	-	0 60	0 70	1 15	1 80	-	30 00	11 00	0 03	
-	1 00	0 30	0 40	0 50	-	0 70	-	-	3 00	-	50 00	15 00	0 03	
-	2 00	0 40	-	-	-	-	-	-	-	0 20	-	20 00	0 035	
7 17	1 60	0 40	0 45	0 55	1 00	0 90	1 30	1 75	3 00	0 16	60 00	19 00	0 035	
-	2 10	0 40	-	0 60	-	0 95	1 40	-	2 75	0 15	60 00	17 00	0 04	
-	2 20	0 45	-	0 60	-	0 80	1 00	1 50	-	0 18	50 00	-	-	
-	2 00	0 40	-	-	-	-	-	-	-	-	-	11 80	0 0296	
-	2 25	0 40	-	0 60	-	1 10	-	1 60	2 50	0 15	40 00	10 60	0 03	
-	3 00	0 40	-	0 50	-	0 80	-	-	3 00	0 14	40 00	15 00	0 04	

CONTRACT PRICES DEC. 1, 1932, TO NOV. 30, 1933

TOWN OR CITY	CONTRACTOR	EXCAVATION		Struct. Steel Lb.	Reinf. Steel For Struct. Lb.
		Bridge Cu. Yd.	Channel Cu. Yd.		
*Arlington-Belmont- Cambridge	B. Perini & Son	\$1 00	—	\$0 035	\$0 035
Ayer	Eng. Service & Const. Co.	1 00	—	—	0 05
†Barre	R. H. Newell Co.	2 00	\$0 90	0 045	0 06
*Brookline-Newton	Coleman Bros. Inc.	4 00	—	—	0 035
‡Cohasset-Scituate	C. M. Callahan Inc.	1 00	2 00	—	0 03
Colrain	N. Beacco & Sons	1 00	0 50	0 025	0 03
*Conway-Deerfield	Kelleher Corp.	2 00	1 00	—	0 045
*E. Boston-Revere	A. Barruffaldi	1 50	—	—	0 0325
Easton	Arute Bros. Inc.	2 75	1 25	—	0 05
Gt. Barrington	Roy W. Wright	1 50	—	—	0 032
Hancock	Kelleher Corp.	50	50	—	0 04
Hopkinton-Southboro	N. F. Smith & Co.	1 00	0 40	—	0 02
*Lynn-Revere	Crandall Eng. Co.	Lump Sum	—	0 05	0 04
*Marshfield-Scituate	Lee Constr. Co.	1 00	—	0 0455	0 034
‡Oxford-Webster	C. & R. Const. Co.	30	3 00	0 041	0 03
Pittsfield	Lee Constr. Co.	1 00	—	0 028	0 029
*Quincy-Weymouth	Blakeslee Rollins Corp.	5 00	—	0 07	0 04
Revere (Secs. 2 and 3)	C. & R. Const. Co.	20	—	0 038	0 03
Southampton	D. O'Connell's Sons	38	—	—	0 035
*Sterling-W. Boylston	M. Pandolph Co.	—	5 00	—	0 035
*Templeton	Lane Const. Co.	4 00	—	—	0 04
Williamsburg	M. Siano & Son	80	50	—	0 0296
Williamstown	J. F. Fitzgerald	1 50	1 00	—	0 03
‡Yarmouth	S. W. Lawrence	2 00	—	—	0 04

Pile foot note (Lynn & Revere) price given is average price of different length piles.

*Indicates NRA Projects.

†(Barre) Later awarded to Town forces.

‡Federal Aid Emergency Construction Projects.

CONTRACT PRICES DEC. 1, 1932, TO NOV. 30, 1933

CONCRETE (Cu. Yd.)					Rip Rap cu. yd.	Bit. Conc. "D" ton	Bit. Water Pr'f'g S.Y.	Zinc Plates lb.	Lum- ber Sht'g MFBM	WOOD PILES			Conc. Piles Lin. ft.	Test Piles Each
REINFORCED		PLAIN	RUBBLE							Y.P. (Per	Spr'ce Lin.	Oak Ft.)		
1:2:3½	1:2:4	1:2½:5	1:2:4	1:2½:5										
\$13 25	-	\$13 00	\$9 50	\$9 25	\$2 50	-	\$0 25	-	\$60 00	-	\$1 60	-	-	-
-	-	-	9 00	-	-	-	-	-	-	-	-	-	-	-
-	\$15 00	15 00	9 00	-	1 50	-	-	-	-	-	-	-	-	-
-	13 00	13 00	-	10 00	-	\$6 00	0 25	-	-	-	-	-	-	-
-	15 00	12 00	-	-	2 00	-	-	-	-	-	-	-	-	-
-	12 00	10 00	10 00	-	-	-	-	-	40 00	-	-	-	-	-
-	17 00	15 00	12 00	-	2 00	-	0 50	-	60 00	-	-	-	-	-
11 00	-	-	-	7 50	-	6 00	0 25	-	40 00	\$0 35	-	-	\$2 25	\$75 00
-	10 00	-	8 30	-	-	-	-	-	70 00	1 00	-	-	-	-
-	14 50	-	7 25	-	-	-	0 50	\$0 16	0 01	-	-	-	-	-
-	14 50	12 00	-	-	-	-	-	-	-	-	-	-	-	-
-	12 35	-	8 98	-	2 00	-	0 40	0 05	150 00	-	-	-	-	-
(Concrete Priced by Elevation)					3 00	-	0 25	-	-	-	0 34	{ See Pile Foot Note	-	50 00
14 00	-	-	-	-	-	6 00	0 25	0 15	-	0 70	{ Creosoted		-	-
-	12 00	10 00	6 80	-	2 00	-	-	-	10 00	-		-	-	-
-	10 20	-	8 00	-	-	-	-	0 16	0 01	-	-	-	-	-
15 00	-	10 00	20 00	-	-	-	-	-	-	-	\$0 33	\$0 47	-	50 00
-	11 00	10 00	6 00	-	1 50	4 00	-	-	10 00	-	-	-	-	-
-	20 00	15 50	-	-	2 25	-	-	0 17	-	-	-	-	4 50	100 00
-	19 00	20 00	18 00	-	-	-	0 50	-	100 00	-	-	-	-	-
-	17 00	16 00	13 00	-	-	-	0 50	-	50 00	-	-	-	-	-
-	11 80	-	9 40	-	1 35	8 36	0 25	0 15	-	-	-	-	-	-
-	10 60	12 00	10 32	-	2 00	10 00	0 30	-	65 00	-	-	0 70	-	75 00
-	15 00	15 00	-	-	2 00	pr ton	-	-	60 00	0 50	-	-	-	-

REGISTRY OF MOTOR VEHICLES

The statistics for the year 1933 continue to show slight decreases in some of the classes of applications handled, but there was a nominal increase in the registration applications.

The demands on the Registry for information from records and data from the files is increasing steadily. There was a salutary decrease in the number of insurance cancellations. The decrease in court abstracts received has continued again this year, with the revenue received from fines also taking another substantial drop.

The regular activities of the Registrar of Motor Vehicles continued during the year in matters of highway safety, including the special attention over Saturday and Sunday week ends and holiday periods. The co-operation of the various safety committees and organizations, police and other officials having to do with highway safety, was helpful.

The removal of the Registry from its quarters at Commonwealth Pier 5 to its offices in the new building of the Department of Public Works at 100 Nashua Street took place in July, 1933. Advantage was taken of the July 4th holiday and the move, which commenced at 12 o'clock noon, Saturday, July 1st, was completed on the 5th, when full service was rendered to the public at the new quarters, beginning at the usual hour, 9 o'clock. On Monday limited but adequate service to the public was rendered at Commonwealth Pier. The move was completed without loss or serious disarrangement of any of the millions of records, applications, folders, cards and data in the Registry files, to say nothing of the thousands of dollars of equipment, both in the way of office furniture and office machinery, none of which suffered serious damage in any respect. The Registry moved into and now occupies the first three floors of this new building and approximately one-half of the basement for storage of supplies, number plates, etc. Experience in the new quarters has indicated that the layout was well planned and efficient and will be adequate for many years to come.

A few of the outstanding figures for the year, together with a comparison with the previous year, follow:—

	1932	1933
Motor Vehicle certificates of registration issued	923,570	931,516
Compulsory insurance cancellation notices received	130,328	101,175
Licenses to operate issued	1,014,635	1,022,662
Examinations of applicants for licenses	81,036	74,988
Licenses and registrations revoked and suspended	73,511	78,431
Licenses revoked for driving under influence of liquor	4,824	4,274
Total number of applications handled	2,018,238	2,024,792
Gross receipts from fees	\$6,142,129.98	\$6,035,102.27

REGISTRATIONS OF PASSENGER CARS, COMMERCIAL VEHICLES AND MOTOR CYCLES

The following registration figures show a 1.31% increase in passenger registrations, a 1.81% decrease in commercial registrations, and motor cycle registrations showed a decrease of approximately 38% over the previous year.

	1905	1915	1925	1929*	1932	1933
Passenger cars	4,889	90,580	663,858	905,636	809,358	819,987
Commercial vehicles	—	12,053	100,480	113,268	112,551	110,506
Motorcycles	553	9,520	10,333	6,168	1,661	1,023
Totals	5,442	112,153	774,671	1,025,072	923,570	931,516

*Peak year.

EXAMINATIONS FOR LICENSES

The system of examining prospective operators of motor vehicles was not changed in any respect during the year 1933, the appointment system being continued and the examination consisting of the usual demonstration on the highways, a reading test, an eye test, and a test of the applicant as to his knowledge of the motor vehicle law. The number of persons examined has continued to decrease at the fifty-five examining points with the following results:—

	1932	1933
Operators passed	68,328	66,547
Operators unfit	8,735	6,966
Restriction removal, passed	3,873	2,371
Restriction removal, unfit	444	261
“Competency” passed	560	330
“Competency” unfit	29	21
Total examinations	81,969	76,496

BRANCH OFFICES

The branch offices of the Registry of Motor Vehicles are able to render practically the same service to the public that is rendered at the main office at Boston, except as to information from the records. Each branch office serves as a headquarters for the district in which it is located, both as to distribution of number plates and licenses, and law enforcement.

The following table gives approximate figures showing the distribution of applications received at the branch offices and at the central office at Boston:—

APPROXIMATE DISTRIBUTION OF REGISTRATIONS, LICENSES, ETC.

	Regis- trations	First Licenses	License Renewals	Miscel- laneous	Totals
Boston:					
Counter	205,000	—	167,000	76,000	448,000
Mail	151,000	—	410,000	11,000	572,000
Examination	—	20,000	—	4,000	24,000
Pittsfield	22,000	2,000	19,000	5,500	48,500
Springfield	55,000	6,000	54,000	15,000	130,000
Greenfield	11,000	1,000	9,000	3,000	24,000
Northampton	12,000	1,000	9,000	3,500	25,500
Worcester	51,000	6,000	46,000	15,000	118,000
Fitchburg	18,000	1,500	15,000	5,000	40,500
Framingham	23,000	2,000	13,000	6,000	43,000
Lawrence	31,000	4,000	29,000	8,000	72,000
Lowell	25,000	3,000	22,000	6,000	56,000
Fall River	21,000	3,500	21,000	6,500	52,000
New Bedford	21,000	2,000	25,000	7,000	55,000
Lynn	56,000	6,500	47,000	16,000	125,500
Quincy	32,000	5,500	33,000	9,000	79,500
Brockton	38,000	3,000	32,000	12,000	85,000
Hyannis	9,000	1,500	7,000	2,500	20,000
Nantucket ¹	1,500	—	—	—	1,500
Oak Bluffs ¹	2,500	—	—	—	2,500
Totals	785,000 ³	68,500	958,000	211,000 ²	2,022,500

During the year the branch offices at Pittsfield, Fall River and Lawrence, upon the expiration of their leases, were moved,—the two former to new and better locations and quarters, while the latter transferred to

¹ Licenses and miscellaneous applications included in counter figures.
² This figure includes approximately 140,000 number plate reissues.
³ Does not include reissues (see Miscellaneous).

new quarters in the same building. In each instance, the contract for the new lease provided for a reduced rental. Negotiations for the removal of the Brockton office are under way and when this change is effected it is believed that the locations and quarters of all the branches will be well adapted to the requirements of the public.

COMPULSORY MOTOR VEHICLE LIABILITY INSURANCE

The following figures show the volume of papers received and notices mailed in connection with the carrying out of the law regarding compulsory motor vehicle liability insurance:

	1932	1933
Causes for Cancellation of Policies:		
For non-payment of premiums	112,994	70,564
For other reasons	17,334	30,611
Total	130,328	101,175
Origin of requests for Cancellation of Policies:		
Insurance companies	93,000	97,877
Finance companies	37,328	3,298
	130,328	101,175
Disposition of applications for cancellations:		
Replacement certificates, adjusting cancellations		8,194
Reinstatements, adjusting cancellations		45,000
Sets of plates returned before effective date of cancellation		13,000
Revocations		34,981
Total		101,175
Return of Plates:		
Returned promptly after revocation		22,048
By Police		5,955
By Inspectors of Registry		3,173
Not returned		3,805
Total revocations		34,981

The decrease in total number of cancellation notices received was probably due to the fact that the finance companies in exercising their powers of attorney caused more general current payments of premiums. Under ideal conditions the only cancellations which should be necessary for this Department to handle should be the so-called "For Cause" cancellations.

PROPERTY DAMAGE

Under the provisions of Section 22A of Chapter 90, General Laws, which became effective September, 1932, the Registrar may, upon receipt of evidence satisfactory to him, suspend the license of any operator who has failed to satisfy a judgment rendered against him after sixty days in any case in which such operator is the defendant in an action brought to recover damages for injuries to property arising out of the use, operation or maintenance on the ways of the Commonwealth of a motor vehicle or trailer.

The following figures indicate the number of cases in which successful plaintiffs availed themselves of the additional facilities provided in the new law for recovering damages and the action taken thereon.

Complaints received	344
Releases received, no action being necessary	81
Licenses or rights to operate suspended	263
Licenses or right to operate reinstated after suspension	59

AIRCRAFT

The statistics of the Aviation Section show a decrease in the number of licensed pilots and airplanes.

Although the total number of pilots flying in the State is less, it is very encouraging to note that there has been a greater decrease in the percentage of accidents, which, no doubt, is partly the result of the two new regulations, — one, the raising of the age limit to obtain a pilot's license to 18 years and the other, the prohibiting from carrying passengers of pilots who have less than 50 hours of solo flying to their credit.

A very strict periodic supervision has been made of the operations at all airports. The active flying fields have been resurveyed by our engineers who have brought the blue prints up to date. A program for air-marking of towns which is well under way is meeting with fair success. Co-operation with the Federal Government in aviation activities has been continued.

The following figures summarize the work of the Aviation Section.

	1932	1933	
Pilot's licenses issued	17	21	
Airplanes registered	37	27	
Duplicates issued	4	4	
Fees received	\$555	\$492	
Pilots' permits issued	476	336	
Aircraft permits issued	323	231	
Pilots examined by flight tests	11	10	
Airplanes inspected	470	269	
Suspensions of licenses and rights to fly	34	27	
Airplanes grounded	149	71	
Reinstatements of licenses, rights and groundings	119	66	
Court prosecutions	5	2	
Rulings promulgated	1	2	
Airports approved	1	1	
Airports disapproved	2	1	
Surveys of fields	15	84	
Investigations made by aircraft inspectors	821	896	
Airplane accidents	86	53	
	1932	1933	
Fatals	8	6	
Non fatals	21	9	
No injury	57	38	
Persons killed	11	10	
Persons injured	38	15	
Ground accidents		13	5
	1932	1933	
Non fatals	3	1	
No injury	10	4	
Persons injured	3	1	

INSPECTION OF MOTOR VEHICLE EQUIPMENT

The fourth periodic inspection of the safety equipment of all motor vehicles registered in the commonwealth was held during the year. The work was carried on by a permanent organization of Official Inspection Stations designated by the Registrar. Most of these stations have been functioning for a period of four years and performed the work honestly and efficiently.

The results of the inspections confirmed the conclusions reached by former experience: that one inspection per year cannot be expected to secure the desired results. When business and other conditions warrant, it is to be hoped that two inspections per year can be conducted.

During the year approximately 790,000 cars were inspected. The result may be summarized as follows:

Total number of cars inspected	790,000
Total O. K. without repair or adjustment	316,000—40%
Total requiring replacement or adjustment	474,000—60%

Repairs or adjustments on the 474,000 vehicles requiring correction of defects in equipment were as follows:

Brakes	213,300—27%
Lights	410,000—52%
Horn	13,430— 2%
Muffler	7,110— 1%
Steering Gear	13,200— 2%
Windshield Cleaner	15,000— 2%
Number Plates	4,187—0.5%

School Bus Inspections

All the school buses operated in Massachusetts under contracts with cities or towns, or owned by cities or towns, were examined by inspectors of this department five times during the year as required by Chapter 271 of the Acts of 1932. These inspections were held during the first weeks of January, March, May, September and November. In each case, about eight hundred vehicles were inspected at 70 designated examining points. Because of the provisions of the law, complete compliance with its equipment requirements cannot be insisted upon until the termination of all transportation contracts existing on August 26, 1932. In general, however, school bus equipment has improved considerably since the first inspection held in October 1932, and many new buses have been put in operation to take the place of vehicles which failed to meet the requirements of the Act.

Brakes, Lights, and Overloads

Eighteen men were regularly assigned to equipment work. Besides their duties in connection with the periodic inspections of motor vehicles and school buses, these men did considerable road work in enforcing equipment requirements. 1,732 vehicles were reported for defective brakes; 22,299 for defective lights. 1,092 registrations were suspended or revoked because of dangerously defective equipment. In addition 339 owners were sent warning notices because of overloading and 15 registrations were revoked for this cause. Equipment inspectors also reported 2,553 cases of improper operation for action by the Registrar and 1,380 cases of violation of laws and regulations regarding equipment, dimensions of vehicles, etc.

Headlamps and Rear Lamps

The Registrar approved four new headlamps and granted several extensions of approval during the year. Three of the new approvals were of the three beam type having a "clear road" beam, a "meeting" beam and a "city" beam,—each of the three beams being accomplished by different combinations of use of the two bulbs in the pair of headlamps. The fourth headlamp approved has six beams and is magnetically operated; but that does not necessarily indicate a tendency towards greater complications. In fact, such is not desirable, the simple systems being more satisfactory. Seven new tail lamps were approved during the year.

MOTOR VEHICLE DEATHS, INJURIES, COLLISIONS

Deaths caused by motor vehicles in 1933 numbered 769, an increase of one or 0.1 per cent as compared with the record of the previous year. The record of classified fatalities, injuries and collisions in the years 1932 and 1933 is as follows:—

Motor Vehicle Accidents to Persons

	Persons Killed		Persons Injured	
	1932	1933	1932	1933
Pedestrians by autos	426	425	15,793	15,180
Pedestrians by motor cycles	2	0	26	26
Pedestrians near street cars	11	8	24	35
Occupants of autos	277	277	30,186	31,325
Occupants of autos at R. R. crossings	16	17	24	18
Occupants of motor cycles	9	9	240	184
Bicycle Riders	12	17	848	920
Occupants horse-drawn vehicles	5	6	279	193
Coasters on sleds	8	6	148	235
Coasters on wheels	2	4	90	133
Totals	768	769	47,658	48,249

	Children Killed		Children Injured	
	1932	1933	1932	1933
Boys	112	115	7,441	7,062
Girls	34	39	4,136	3,599
Totals	146	154	11,577	10,661

Number of Collisions

	1932	1933
Collision with pedestrian	15,672	14,998
Collision with automobile	20,168	20,027
Collision with horse-drawn vehicle	300	256
Collision with railroad train	23	15
Collision with street car	297	339
Collision with fixed object	1,887	2,268
Collision with bicycle	873	927
Non-Collision (overturn)	714	726
Collision with motor cycle	303	238
Collision with sled	120	205
Collision with animal	101	86
Coaster on wheels	82	131
Totals	40,640	40,216
In the daytime	25,394	24,561
After dark	15,246	15,655
Totals	40,640	40,216

ACCIDENT REPORT LETTERS

As provided by section 26, chapter 90, General Laws every operator of a motor vehicle in any manner involved in an accident in which any person is killed or injured is required to report in writing to the Registrar. The number of these formal accident reports received from operators in 1933 was 44,869 as compared with 48,864 received in 1932. Under the requirements of section 29, chapter 90, General Laws, 18,991 similar reports of accidents were received from Police Departments throughout the State in 1933 as against 19,859 received in 1932. In addition, in connection with this reporting of accidents by operators during the fiscal year 1932 there were received 14,769 letters and complaints reporting faulty operating. During the year 1933, these letters and complaints numbered 12,318.

**COMPARATIVE STATEMENT OF YEARLY REGISTRATIONS, LICENSES, DEATHS,
INJURIES, REVOCATIONS AND SUSPENSIONS**

Year	Automobiles Registered	Motor-Cycles Registered	Total Regis- trations	Number of Persons Killed	Number of Persons Injured	Licenses Issued	Total Sus- pensions and Revo- cations	For Operat- ing Under Influence of Liquor
1910	31,360	3,358	34,718	77	963	41,259	283	22
1911	38,907	3,658	42,565	110	1,248	51,950	360	14
1912	50,132	5,034	55,166	142	1,962	66,645	546	56
1913	62,660	7,127	69,787	188	2,923	81,034	608	87
1914	77,246	8,161	85,407	229	4,010	99,532	858	131
1915	102,633	9,520	112,153	294	6,197	133,935	1,153	202
1916	136,809	10,713	147,522	315	9,131	171,596	1,396	320
1917	174,274	11,065	185,339	438	7,282	214,229	1,831	485
1918	193,497	12,862	206,359	499	8,598	235,140	2,343	553
1919	247,183	13,698	260,881	582	16,287	297,968	2,156	554
1920	304,538	15,142	319,680	481	21,182	261,539	2,944	888
1921	360,731	12,058	372,790	544	11,487	380,519	4,899	1,508
1922	449,838	11,675	461,513	522	15,277	444,173	8,369	2,460
1923	566,150	11,733	577,883	578	16,217	536,819	11,613	3,333
1924	672,315	10,778	683,093	709	19,579	620,439	14,154	4,395
1925	764,338	10,333	774,671	755	25,736	698,378	16,249	4,654
1926	826,224	9,215	835,439	705	25,351	763,951	18,705	4,863
1927	819,703	7,245	826,948	693	31,721	814,094	31,252	4,983
1928	883,595	6,656	890,251	715	42,201	870,160	40,814	5,071
1929	1,018,904	6,168	1,025,072	777	46,111	944,338	53,133	5,381
1930	1,008,476	4,642	1,013,118	795	44,279	982,795	52,954	5,052
1931	1,006,808	3,068	1,009,876	793	48,837	1,024,304	63,841	5,535
1932	921,909	1,661	923,570	768	47,658	1,014,635	73,511	4,824
1933	930,493	1,023	931,516	769	48,249	1,022,662	78,431	4,274

INVESTIGATIONS AND PROSECUTIONS BY INSPECTORS

Investigations were made under the direction of the Chief Inspector relative to fatal and non-fatal accidents, violations of the laws concerning brakes and headlights, inspection of garages, miscellaneous complaints, and the prosecution of motorists in court. The table below shows the wide range of these activities of the inspectors, and reveals an increase in the total number of cases handled.

Classification of Reports

	1932	1933
Accidents, fatal	748	729
Accidents, non-fatal	5,816	5,457
General Reputation	5,943	6,933
Miscellaneous	11,764	12,437
Totals	24,271	25,556
Complaints filed	14,976	12,537
Garages	5,471	8,964
Headlights	21,036	24,031
Prosecutions	752	655
Amount of fines	\$26,175.	\$21,263.

REVOCATIONS AND SUSPENSIONS

	1932	1933
Licenses suspended	15,315	10,551
Licenses revoked	3,466	2,996
Rights suspended	4,651	4,402
Certificates suspended	0	1,127
Certificates revoked	48,417	57,802
Certificates and licenses suspended	22	17
Certificates and licenses revoked	1,435	1,359
Certificates revoked and rights suspended	123	107
Rights in Massachusetts suspended	82	70
Totals	73,511	78,431
Resulting from investigations	17,411	12,577
Resulting from Court convictions	8,196	7,603
Resulting from Police complaints	1,411	1,401
Resulting from Judges' complaints	21	25

Resulting from State Police complaints	210	81
Resulting from Insurance cancellations	46,262	104
		56,721
Totals	73,511	78,431

Character of Offenses

Reckless and endangering	1,845	1,572
Liquor convictions	3,899	3,601
Going away after accidents	335	332
Without authority	831	726
Racing	0	2
Improper person	5,562	5,059
Improper person, liquor	925	673
Two overspeeds	34	58
Three overspeeds	4	9
Improper operation	9,436	6,874
Insurance cancellations	46,262	56,721
Insurance convictions	375	387
Improper equipment, miscellaneous	138	208
Improper equipment, lights	166	334
Improper equipment, brakes	415	369
Failure to have stickers	2,157	181
Fatal accidents	728	734
Other offenses	399	362
Property Damage cases	0	229
Totals	73,511	78,431

Formal hearings	7,188	7,103
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Court recommendations adopted:—

Reckless and endangering	33	30
Going away after accidents	6	5
Without authority	2	0
Allowing improper person to operate	1	0
Totals	42	35

Persons whose licenses were suspended or revoked and who had to pass examination in order to have them returned	3,805	3,725
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ANALYSIS OF COURT ABSTRACTS RECEIVED

	1932	1933
Number of courts forwarding abstracts	95	95
Total abstracts received	51,329	46,381
Number of abstracts recording convictions	36,149	31,791

Offenses

(Analysis of convictions, not including appeals)

Overspeeding	11,366	9,453
Reckless	14	10
Operating under influence of liquor	3,486	3,334
Using auto without authority	1,194	925
Endangering lives	2,253	1,642
Not stopping after causing injury	591	571
Without license	2,985	2,600
Without registration certificate	802	704
Unregistered vehicle	395	386
Improper display or no register number	178	155
Refusing to stop on signal	298	431

Unlighted lamps	500	444
Not signalling	0	1
Operating within 8 feet of street car	112	115
Violation of Metropolitan Park Rules	442	169
Operating after suspension or revocation of license	558	559
Larceny	115	129
Manslaughter	1	1
Miscellaneous	2,007	1,512
Lenses not approved	0	1
No reflector	0	7
Racing	1	4
Operating after registration certificate revoked	22	11
No rear light	36	45
Not displaying lights	0	31
Passing red light	130	522
Improper lights	356	212
Brakes not as required by law	237	226
Violation of Insurance Law	416	447
Not slowing down approaching pedestrian	60	19
Not slowing down at intersecting way	5,191	5,015
Violation of law of road	2,312	1,986
Perjury—Making false statements on license appli- cation, falsely impersonating or conspiring to obtain a license	17	18
Loaning a license to another	8	13
Allowing intoxicated person to operate	5	6
Attempted larceny	61	34
Allowing improper person to operate	0	53
Totals	36,149	31,791

USED CAR SECTION (Motor Vehicle Identification)

The following is a resume of the work accomplished by the Used Car Section which indexes, under engine numbers, all motor vehicles registered and reported stolen, and checks reports of sales of used cars against the stolen-vehicle records. Dealers' and repairmen's plates and registration certificates are issued by this section.

The work of the section is summarized in the following tables:—

<i>Dealers</i>	1932	1933
Total number of first class dealers reporting	1,240	1,135
Total number of second and third class dealers reporting	468	519
Total number making reports to this office	1,708	1,654

Reports

Approximate number of notices of intended sales received daily	243	280
Approximate number of dealers' reports received daily	823	878

Motor Vehicles Stolen

Number stolen in Boston	4,901	5,108
Number stolen in Massachusetts (including Bos- ton)	6,211	9,743
Number reported stolen from various sources throughout the country, including Massachusetts	23,902	25,505
Number of motor Vehicles recovered through in- formation furnished by this office	423	368

Engine and Serial Numbers

Engine numbers assigned to cars	12	15
Certificates issued authorizing the replacement of engine numbers	456	370
Certificates issued authorizing the replacement of serial numbers	648	470
Certificates issued authorizing the replacement of both engine and serial numbers	19	15
Total number of authorization certificates issued	1,123	855

EASTERN CONFERENCE OF MOTOR VEHICLE ADMINISTRATORS

Two meetings of the Motor Vehicle Administrators were held in 1933, one, the Eastern Conference of Motor Vehicle Administrators, in Detroit, Michigan, on June 27, 28 and 29, and the other in Chicago, Illinois, at which time no representative of this Department attended either meeting on account of economic reasons. The American Conference of Motor Vehicle Administrators was organized at the Chicago Conference on September 29 and 30, and the Eastern Conference is now a division of it.

ANALYSIS OF RECEIPTS

The fees received for the year 1933, together with the number of certificates of registration issued in each classification and the number of licenses granted, etc., are shown in the following table:

Certificates of Registration:

Passenger cars including taxicabs)	816,302	\$2,428,075 95
Commercial cars	110,506	1,188,656 10
Buses	3,685	89,089 65
Trailers	525	30,741 50
Motor cycles	1,023	1,394 00
Manufacturers or Dealers (including repairers)	2,753	8,259 00
Manufacturers or Dealers additional cars (including repairers)	17,997	53,991 00
Licenses to operate:		
Original licenses	66,952 at \$2.00	133,894 00
Renewal licenses	955,710 at 2.00	1,991,223 50
Examinations	60,650 at 2.00	\$121,300
Re-examinations	14,338 at 1.00	14,338
Total examinations	74,988	135,638.00

Copies of certificates and licenses furnished	32,615 at \$1.00	32,615 00
Duplicate number plates furnished	8,685 at 1.00	8,685 00
Lens approval applications	3 at 50.00	150 00
Miscellaneous receipts, process fees, etc.		12,689 57

Total amount of fees	\$6,035,102 27
Motor Vehicle fees rebated (deducted)	61,866 57

Net fees	\$5,973,235 70
Court fines received by the Treasurer and Receiver-General	333,241 32

Total receipts (not including gasoline tax*) credited Highway Fund account, 1933	\$6,306,477 02
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*Receipts from gasoline tax are credited to the Highway Fund but are collected through agencies other than the Registry.

EXPENSES OF THE REGISTRY OF MOTOR VEHICLES

The cost of running the Registry of Motor Vehicles for the year 1933 was \$1,434,382.44, which was 24% of the net fees collected. This cost, deducted from the receipts for the year, left the sum of \$4,872,094.58 available for legislative appropriation for highway work.

ANALYSIS OF EXPENDITURES FOR THE FISCAL YEAR 1933

Payrolls

Personal Services:

Regular payroll	\$899,054 11	
Overtime payroll	7,845 75	
	<hr/>	\$906,899 86

Expenses

Supplies:

Books, maps, etc.	\$820 99	
Typewriter supplies	1,458 56	
Adding machine repairs and supplies	109 41	
Other supplies	2,607 25	
Stationery	20,844 12	
Typewriter repairs	118 66	
Other repairs	652 11	
	<hr/>	\$26,611 10

Equipment and Furniture:

Typewriter machines	\$3,233 55	
Other machines	2,293 65	
Desks	579 97	
Bookcases, tables, etc.	1,146 49	
Filing cabinets	13,529 82	
Chairs	533 29	
Dictograph	347 57	
Branches—Safe	209 10	
Headlight and Brake Testing Expense	19 00	
Uniforms	4,609.05	
	<hr/>	\$26,501 49

Traveling Expenses:

Officials	\$2,088.51	
Employees	22,796 43	
Aviation	2,763 97	
Automobiles (owned by employees)	72,886 52	
Automobiles (owned by State):		
Maintenance of 11 automobiles	3,014 38	
Exchange of 3 automobiles	1,103 19	
Purchase of 1 automobile	483 87	
	<hr/>	\$105,136 87

Other Services and Expenses:

Expressage	2,973 09	
Postage	92,019 16	
Printing:		
Other reports	38 27	
Other printing	8,066 00	
Telephone	7,854 87	
Premium on Bonds of Employees	391 21	
Rent	11,500 00	
Cleaning and Janitor Services	929 90	
Rat Extermination	105 34	
Labor	326 70	
Number Plates	178,729 10	
Direct Mail Lists	9,500 00	
Sundries	238 86	

Towels and Soap	578 39	
Water and Ice	581 60	
Expenses incurred by moving to new building:		
New Equipment	11,567 02	
Labor	5,993 45	
Branch Offices:		
Rent, Telephone, Lighting, Heating	27,488 27	
Labor and Services	7,506 11	
Supplies and Express	2,404 59	
		\$368,791 93
<i>Publicity for Safety Work</i>		
Labels	\$441 19	
		\$441 19
		\$1,434,382 44
<i>Summary</i>		
Payrolls		\$906,899 86
Expenses		527,041 39
Publicity for Safety Work		441 19
		\$1,434,382 44

RELATING TO WATERWAYS AND PUBLIC LANDS
BOSTON HARBOR

The Commonwealth Flats at South Boston
Commonwealth Pier 5

Work necessary to maintain the pier in condition for effective operation has been carried on as usual during the year. Repairs have been made to gangways, to fender logs and fittings, to roofing, flashing, downspouts and sash, to elevators and elevator machinery, to the sprinkler system and to the heating plant.

On June 6, 1933, a contract was made with A. A. Hersey and Son Company for furnishing, driving, fitting and securing new fender piles and new foundation piles, rebolting piles and belay posts, furnishing and securing new bracing, securing existing loose bracing, and other necessary timber work in the pile platform of the pier. This work is now in progress.

Early in the year requests were made for the cutting of an additional door on the second floor at the outer end of the pier to facilitate the embarking and disembarking of passengers from steamships using the outer berths when the inner berth is occupied. This door was provided for in a letter contract made June 20, with J. Edward Ogden Company for cutting out siding and framing a new door opening, removing a two section door and erecting it in the new opening, and for furnishing and installing a new three-section door in place of the two-section one, on the east side of the second floor of the pier at a contract price of \$1,818. This work was completed Oct. 5, 1933.

After the movable gangway, built last year at the outer end of the pier, had been in operation for some months, it became evident that the widening of the lower run would allow freer movement of the short gangway extending from the movable gangway to the ship docking at the pier. For this widening and for certain changes in the open observatory where the movable gangway meets the second floor of the pier, the two following contracts were made.

On Sept. 13, 1933, a contract was made with the Waghorne-Brown Company to remove a portion of the parapet wall on the observation platform at the outer end of the pier, to provide an opening 30 feet 6 inches wide, and to furnish and to erect a steel fence to close the opening, for the lump sum of \$322. The work was completed Nov. 10, 1933.

A contract was made on Sept. 13, 1933, with the Waghorne-Brown Company to make alterations to the movable gangway at the pier, by changing the width of the lower ramp from 4 feet to 8 feet, and making alterations in the upper ramp by the construction of new crickets to adjust the gangway to alterations in the parapet coping. The contract price for this work is the lump sum of \$1,044. The work was completed Nov. 10, 1933.

On Sept. 20, 1933, a contract was made with Louis P. Steensen for cleaning and painting all exterior structural steel work on the sides and outer end of the pier for the lump sum of \$1,720. Later this contract was extended to include painting the rooms and corridors in the head house. The work is now in progress.

A letter contract was made with George T. McLauthlin on Nov. 21, 1933, for installing sixteen elevator gates on four elevators at the pier for the sum of \$2,400.

During the summer the offices at the pier occupied by the engineers of the Department and by the registry of motor vehicles were vacated for space in the Public Works Building at 100 Nashua Street. This change releases practically the entire pier for shipping, cargo and passenger use. Some office partitions have been removed and openings made in others by the operating force so that cargo may be more easily transferred into certain parts of the area vacated.

Captains of the large passenger liners using the pier have expressed considerable concern lest a combination of a strong westerly wind with an ebb tide should cause a vessel heading for the east berth to strike or ground upon the bank in front of the Fish Pier. To reduce this hazard a contract was made on Sept. 26, 1933, with the Bay State Dredging and Contracting Company for dredging to a depth of 35 feet at the mean low water, an area to widen the approach to the east berth of the pier, at the following contract prices: for dredging and disposing of the dredged material, 43 cents per cubic yard, scow measurement; for removing and disposing of boulders, \$20 per cubic yard. This work is now in progress.

A summary of freight and passengers using the pier in 1933 follows:

FREIGHT AND PASSENGERS AT COMMONWEALTH PIER NO. 5 DURING
FISCAL YEAR ENDING NOVEMBER 30, 1933

Name of SS. Line	No. of Ships	In Fgt. RR. (Tons)	Trucks (Tons)	Total Tonnage	Out Fgt. RR. (Tons)	Trucks (Tons)	Total Ton- nage	Passengers In Out	Total
Am. Haw. SS. Co. .	102	18,570	105,386	123,956	7,487	30,847	38,334	- -	-
Luckenbach SS Co. Inc.	71	8,040	53,114	61,154	3,797	14,112	17,909	- -	-
Norton, Lilly & Co. .	64	1,721	10,985	12,706	523	4,129	4,652	- -	-
White Star Line .	41	962	5,564	6,526	1,556	1,237	2,793	2,844 3,007	5,851
Canadian Nat. SS. Co..	77	-	-	-	-	-	-	2,068 1,888	3,956
Italian Line .	16	-	34	34	-	80	80	- 2,167	2,167
Hamburg-Amer. Line .	4	-	-	-	-	-	-	125 209	334
Byron SS. Co. .	9	-	-	-	-	-	-	- 759	759
Norton Lilly & Co. (Foreign) .	1	243	10	253	-	-	-	18 -	18
SUMMARIES .	385	29,536	175,093	204,629	13,363	50,405	63,768	5,055 8,030	13,085

DEVELOPMENT OF LAND SOUTH OF SUMMER STREET

During the year the seven sections in Storehouse No. 1 on E Street have been occupied by the Wiggin Terminals, Inc. Minor repairs have been made to the warehouse as they became necessary.

In accordance with the terms of the agreements of May 10 and June 7, 1932, the Department relinquished early in the year sections M and N of the D Street Storehouse, leaving the entire building to the Economy Grocery Stores Corporation.

A few months later the Corporation began negotiations for the purchase of a parcel of land containing about 36,275 square feet off D Street and southerly of the property of George C. Corcoran. An agreement under date of Oct. 3, 1933, was approved by the Governor and Council on Oct. 18, for the sale of this land to the Economy Grocery Stores Corporation. The instrument provides that the land becomes the property of the Corporation upon the completion of the payment of \$21,764.99 in nine annual payments, including interest each year upon the unpaid balance.

Under date of August 29, 1933, a lease was granted to the United States of an area about 800 feet by 600 feet at Marine Park, South Boston, and of a right of way from Farragut Road, to allow the establishment of a "T S" radio range station. This lease carries an option of annual renewals to June 30, 1943.

GRASSELLI WHARF

This wharf has been used during the year by various owners for tying up motor boats and other craft. A part of the land and pier has been occupied by a gasoline filling station. The entire property is available for lease.

THE COMMONWEALTH FLATS AT EAST BOSTON

Aircraft Landing Field — Boston Airport

The greater part of the area reclaimed by the Commonwealth at East Boston continues to be occupied by the city of Boston as an airport. On Aug. 10, 1928, under authority of Chapter 64 of the Resolves of that year, the Department leased to the City approximately 5,717,000 square feet of land for this purpose. The use of an additional area of 4,210,760 square feet was authorized by a lease executed July 14, 1930, in accordance with the provisions of Chapter 53 of the Resolves of 1930. The matter of the lease to the city of two additional parcels, one northeasterly of the areas leased in 1928 and 1930, the other southeasterly of the parcel leased in 1930, is now pending.

The use of these areas by the City is subject to certain rights of occupancy and use granted by lease of June 30, 1922, to the War Department, with an option of annual renewals extended to June 30, 1937, by a supplementary agreement of Dec. 27, 1926.

RECLAMATION OF FLATS

The work of dredging and filling at East Boston under contracts made by the Department for the purpose of reclaiming flats has been in abeyance since 1923. Between that year and Nov. 30, 1933, approximately 2,681,000 cubic yards of material dredged from various locations in the harbor have been deposited in the receiving basin. In the year ending Nov. 30, 1933, approximately 83,900 cubic yards were dumped upon flats northerly of Governor's Island. The Commonwealth has reclaimed about 150 acres of land at East Boston.

Under licenses granted in 1930 and 1931, for the building of bulkheads, dredging and filling, the City of Boston has reclaimed for the extension of the Airport an area of approximately 140 acres.

COMMONWEALTH PIER 1, EAST BOSTON

During the greater part of the year the east and west docks of this pier have been used by the Eastern Steamship Lines, Inc., for tying up steamers when not in service.

Under date of Nov. 6, 1933, a lease of this pier was executed to John G. Hall and Company, Inc., for a period beginning Nov. 1, 1933 and ending October 31, 1934, with an option of renewal for one year at the same terms. The lease provides for a rental of \$6,000 yearly plus accruments on all cargo in or out of the pier and on all cargo interchanged between vessel and pier or lighter or other vessel, as follows: annually ten cents per ton of 2,240 pounds up to 15,000 tons; five cents per ton of 2,240 pounds from 15,000 to 40,000 tons; and two and one-half cents per ton of 2,240 pounds on all cargo over 40,000 tons.

The instrument provides that the pier shall be used exclusively for waterborne commerce and that no storage warehouse business shall be carried on upon the premises.

On Nov. 28, 1933, a contract was made with Waghorne-Brown Company for the construction and erection of sixteen sliding steel doors to replace wooden (cargo) doors at this pier, at a contract price of \$143.37 for each door furnished and erected.

BOSTON HARBOR — REMOVAL OF ABANDONED HULKS OR WRECKS

By Chapter 89 of the Acts of 1933, an appropriation of \$50,000 was made for removing abandoned hulks or wrecks lying along the waterfront of Boston Harbor. An additional appropriation of \$25,000 for this purpose was made by Chapter 371 of the Acts of 1933. This work has been carried on during the year under the following contracts.

On Apr. 4, 1933, a contract was made with the Bay State Dredging and Contracting Company for removing several hulks from Boston Harbor, in areas near Chelsea Bridge, off the foot of Hanover Street and westerly of the steamboat wharf in Winthrop Harbor, at a contract price of the lump sum of \$2,700. This work was completed Apr. 17, 1933.

A contract was made on Apr. 18, 1933, with Roy B. Rendle and Company, Inc., for the removal of several hulks with their debris and of old piles from property of the Boston Port Development Company at Condor Street, East Boston, at a lump sum price of \$3,800 for removing and disposing of hulks, and of \$600 for pulling and disposing of piles. This work was completed June 19, 1933.

On Apr. 25, 1933, a contract was made with The Rendle Corporation to remove several hulks from Chelsea Creek on property of the Boston Port Development Company adjacent to Putnam and Condor Streets, East Boston, at a contract price of \$1,800 for removal and disposal of the hulks. Under date of June 7, 1933, the contractor was directed to remove for the sum of \$400 all additional hulks or wrecks encountered in the course of the work. The removal of hulks under this contract was completed July 12, 1933.

A contract was made on Aug. 1, 1933, with John Forward for the removal of hulks or wrecks from Chelsea Creek adjacent to Condor Street near Glendon Street, East Boston. The contract prices for this work are: for the removal and disposal of the steel hulk formerly known as the "Yankton", \$500; for the removal and disposal of all hulks or wrecks or parts of hulks or wrecks, except the steel hulk "Yankton", the lump sum of \$2,900. Work under this contract is not yet completed.

On Aug. 29, 1933, a contract was made with the M & R Construction Company for the removal of several wrecks and debris from Chelsea Creek on property of the Boston Lockport Block Company, East Boston, and the Quincy Oil Company, Chelsea, and from the site of the old Chelsea Ferry in Boston Harbor on property of Etta C. Lowell. The

contract price for this work is the lump sum of \$1,495. This work is now in progress.

In order to give, in accordance with the intent of Chapter 89 of the Acts of 1933, as much relief as possible to unemployment, material from the wrecks removed was placed on shore at various locations along the water front. The breaking up of this material provided work for additional labor for about 15,800 man days.

ANCHORAGE BASIN

On June 13, 1933, a contract was made with the M. and R. Construction Company to furnish, drive and secure piles to rebuild Dolphin "A" on the northerly edge of the anchorage basin at Bird Island Flats, for the lump sum of \$175. This work was completed in July 26, 1933.

BOSTON INNER HARBOR

In January request was made for further dredging at the mouth of Fort Point Channel between Pier 1 of the New York, New Haven and Hartford Railroad Company and Rowe's Wharf and Fosters Wharf, in order to provide more convenient access for steamers using the piers on Atlantic Avenue.

A contract was made on Sept. 26, 1933, with the Bay State Dredging and Contracting Company to dredge to a depth of 25 feet at mean low water an area off the entrance to Fort Point Channel at the following contract prices: for dredging and disposing of dredged material, 37 cents per cubic yard, scow measurement; for removing and disposing of all boulders, \$20 for each cubic yard. This work is now in progress.

MYSTIC RIVER DREDGING

In August of this year a request was received from the Merrimac Chemical Company for dredging in Mystic River just above Malden Bridge to prevent the grounding of vessels turning from the main channel into the channel leading to property of the Company.

On Oct. 10, 1933, a contract was made with the Bay State Dredging and Contracting Company to dredge to a depth of 16 feet at mean low water an area approximately 750 feet long and 90 feet wide in Mystic River above Malden Bridge, at the following contract prices: for dredging and disposing of the dredged material 41 cents for each cubic yard, scow measurement; for removing and disposing of boulders, \$20 per cubic yard. This work is now in progress.

PLEASANT PARK, WINTHROP

On Jan. 25, 1933, hearing was held upon the petition of the Pleasant Park Yacht Club for dredging a channel in Belle Isle Inlet from Nun Buoy No. 6 to the basin and channel leading to the Pleasant Park Yacht Club and to the adjacent boat yard.

A contract was made on Nov. 28, 1933, with the Bay State Dredging and Contracting Company for dredging a channel at Pleasant Park about 60 feet wide and 3,800 feet long to a depth of 6 feet at mean low water at the following contract prices: for dredging and disposing of dredged material 38 cents per cubic yard, scow measurement; for removing and disposing of boulders \$20 per cubic yard. This work has not yet begun.

SOUTH BAY

On May 2, 1933, a lease was given to the Downes Lumber Company to continue for a term of five years from May 15, 1933, its occupancy of certain wharf property of the Commonwealth at South Bay, Roxbury, at a rental of \$2,400 per year.

STONY BEACH, HULL

By Chapter 330 of the Acts of 1933 the Department is authorized to place riprap for the protection of Stony Beach from erosion by the sea, at a cost of not more than \$16,000. The statute provides that no work shall be begun until the town of Hull has assumed liability, in the manner provided by section 29 of Chapter 91 of the General Laws, for all damages that may be incurred, nor until the sum of \$4,000 each has been paid into the State Treasury by the town and by the County of Plymouth. This act takes full effect upon its acceptance during 1933 by vote of the County Commissioners of Plymouth County and by vote of the town of Hull in town meeting and the filing in the office of the Department of certified copies of these votes.

In August a certified copy of a vote of the County Commissioners at a meeting held Aug. 8, 1933, accepting the provisions of the Act, was filed with the Department, and a certified copy of the vote of the town at a meeting held Sept. 21, 1933, in acceptance of the statute, was received later.

Not until Oct. 31, 1933, however, did the town of Hull vote to assume liability for damages, as required by the Act, and to authorize the Selectmen to execute the necessary bond of indemnity.

The contributions of \$4,000 each from the town and county were received in November, but no contract for the work has yet been made.

WOLLASTON DREDGING

By Chapter 222 of the Acts of 1932, the Department is authorized to dredge a channel to a depth of not less than 6 feet at mean low water, from Quincy Bay southwesterly to the area in front of the Wollaston Yacht Club and the Squantum Yacht Club, and to dredge a basin in said area. The statute limits the total expenditure to \$12,000 and provides that no work shall be begun until the City of Quincy has paid into the State Treasury a contribution of \$3,000.

Upon the receipt of the required contribution on June 5, 1933, a contract with the Bay State Dredging and Contracting Company was made on June 6, 1933, to dredge to a depth of 6 feet at mean low water a basin and channel at the Squantum and Wollaston Yacht Clubs, the basin 600 feet on the southerly side, 120 feet on the westerly end, and 300 feet on the easterly end, narrowing into an approach channel 75 feet wide on the bottom, to be dredged northerly from the basin for such length as funds available permit. The contract prices are: for dredging channel and basin and disposing of dredged material, 38 cents per cubic yard, scow measurement; for removing and disposing of boulders, \$10 per cubic yard. This work was completed July 11, 1933, at a contract cost of \$11,893.62.

SURVEYS

During the year re-surveys were made of wharf and shore lines along parts of Mystic River in Charlestown, Somerville and Medford, of Chelsea Creek in East Boston and Chelsea, and of Charles River in Boston and Cambridge.

Hydrographic surveys have been made in various locations in Boston Harbor, in Mystic River between Malden Bridge and the Eastern Division Bridge of the Boston and Maine Railroad, in Charles River between the Boston and Maine Railroad Bridge and the Charles River Dam, in Dorchester Bay near the Old Colony Yacht Club, and in Quincy Bay at the Squantum and Wollaston Yacht Clubs.

RIVERS, HARBORS, TIDE WATERS AND FORESHORES OUTSIDE OF BOSTON HARBOR

For the improvement of rivers, harbors, tide waters and foreshores outside of Boston Harbor, in accordance with the provisions of section 11, chapter 91, General Laws, an appropriation of \$25,000 was made during 1931, with the following condition:—

“provided, that all expenditures made for the protection of shores shall be upon condition that at least fifty per cent of the cost is covered by contributions from municipalities or other organizations and individuals and that in the case of dredging channels for harbor improvements at least twenty-five per cent of the cost shall be so covered.”

An appropriation of \$22,500 was also available during the year for the maintenance of structures, and for repairing damages along the coast line or river banks of the Commonwealth, and for the removal of wrecks and other obstructions from the tide waters and great ponds.

Petitions were filed with the Department during the year for surveys and improvements in the following localities: Allens Harbor, Harwich; Bathhouse Beach, West Dennis; Falmouth Inner Harbor, Falmouth; Harwich Shore Protection; Herring River Dike, Wellfleet; Horse Grass Island, South Harwich; Humarock Beach, Scituate; Ipswich River, Ipswich; Nobscusset Harbor, Dennis; Sagamore Beach, Bourne; Sengekontacket Pond, Oak Bluffs; South Dennis Shore, Dennis; Stage Harbor, Chatham; Witchmere Harbor, Harwich.

Public hearings have been held, certain estimates of cost made, but no work has been done to carry out the improvements petitioned for in Horse Grass Island, South Harwich; Humarock Beach, Scituate; Ipswich River, Ipswich; Sagamore Beach, Bourne; Sengekontacket Pond, Oak Bluffs; Stage Harbor, Chatham.

Information relating to work previously done in various rivers and harbors of the Commonwealth may be found in the annual reports of the Board of Harbor and Land Commissioners, the Commission on Waterways and Public Lands, the Division of Waterways and Public Lands of the Department of Public Works, and in the tables of the Appendix accompanying the present report. These tables show localities, character of work, appropriations and expenditures by the Commonwealth, and certain appropriations and expenditures by the Federal Government.

An account of work done during the year 1933 for the improvement of rivers, harbors, tide waters and foreshores outside of Boston Harbor follows:

ALLENS HARBOR, HARWICH

Hearing was held on Jan. 25, 1933, on petitions of the Selectmen of Harwich and of E. O. Engstrom for repairs to the stone jetties at the entrance to Allens Harbor.

A contract was made on Mar. 14, 1933, with Joseph W. Nickerson for placing stone riprap and chips to reinforce and strengthen the existing timber jetties, at a contract price of \$3.19 per ton for riprap or stone chips furnished and placed in the completed work. Under this contract work was completed May 17, 1933, at a contract cost of \$11,847.13. Toward this cost a contribution of \$3,000 was made by the town of Harwich and one of \$3,500 by the Allen's Harbor Properties, Inc.

While the jetties at the entrance to the harbor are now in excellent condition, the movement of material into the channel before repairs were made has caused considerable shoaling. Dredging is now needed to restore a suitable depth in this channel.

Amount expended during the year, \$12,438.63. Total expenditure to Dec. 1, 1933, \$51,146.43.

CAPE COD CANAL LANDING PIER

The work of building in the Cape Cod Canal at Bourne Neck, the landing pier authorized by Chapter 441 of the Acts of 1931, has continued during 1933.

Under contract of Apr. 26, 1932, with the Merritt-Chapman and Scott Corporation for building the pier, dredging a berth, approach channels and turning basin, and constructing mooring dolphins and appurtenances, work was completed Mar. 25, 1933, at a contract cost of \$215,-500.95.

On May 2, 1933, a contract was made with the Pasquale Construction Company, Inc., for the construction of a concrete retaining wall about 310 feet long around the raised portion of the pier, of concrete steps and ramps, for the furnishing and laying of about 120 feet of 6 inch and 80 feet of 2 inch water pipe, and for the setting of one hydrant and check valve for fire service, at the Cape Cod Canal Pier. This work was completed June 29, 1933, at a contract cost of \$1,737.75.

On June 6, 1933, a contract was made with the Waghorne-Brown Company to construct two moveable gangways in the drops of the Cape Cod Canal Pier at a contract price of the lump sum of \$2,645 for furnishing the two gangways and erecting them in place ready to operate. During the progress of the work it was found advisable to install a locking device at an additional cost of \$175. Work under this contract was completed Aug. 31, 1933.

Plans and estimates were prepared in the spring for building different types of superstructures upon the pier. As the funds at the disposal of the Department were limited, it became evident that the architectural style of structure desired by local interests could not be built for the money available. Under the provisions of Chapter 227 of the Acts of 1933, an additional appropriation of \$12,500 was made to permit the construction of a brick building of the type approved by the communities particularly interested in the matter.

A contract was made on June 6, 1933, with the Durso Construction Company for the construction of a building approximately 220 feet long and 35 feet wide at the Cape Cod Canal Pier for the lump sum of \$21,-378. In July the contractor was authorized by the Board to substitute in the construction for the blue monson slate specified, an unfading green slate at an additional cost of \$644. The work under this contract is now nearing completion.

On July 25, 1933, a contract was made with the Mass. Electric Construction Company to furnish and install complete a lighting and power service in the building and pier at the Cape Cod Canal Pier, for the lump sum of \$1,239. An additional expenditure of \$64 was authorized later under this contract to provide for installing two lightning ground pipes. This work was completed Oct. 24, 1933, at a contract cost of \$1,292.12.

While not entirely completed and equipped the landing pier could be used by vessels in the spring of this year. As many inquiries were made by steamboat companies concerning charges for the use of the pier, the Board established temporary rates approved by the Governor and Council Mar. 29, 1933, and effective Apr. 1, 1933. These regulations are now in force but will be superseded later by permanent rates.

The pier as now completed provides dockage on the main frontage for a length of 600 feet with a depth of 25 feet at mean low water. There is also a tieup about 550 feet long on the westerly end and a depth of 23 feet at mean low water. As yet, the use made of the pier has been principally for the landing of excursion parties, although one small steamer was operated during the fall to carry shipments of freight to New York. At present the tying up at the pier of contractors' equipment has facilitated the work of the Federal Government in dredging operations in the Cape Cod Canal.

Amount expended during the year for construction \$87,469.35, for operation and maintenance \$2,135.46. Total expenditure to Dec. 1, 1933, for construction \$258,362.64, for operation and maintenance \$2,135.46.

CONNECTICUT RIVER, HADLEY

Hearing was held Oct. 4, 1933, on the petition of the Chairman of Selectmen of Hadley for the building of a dike for the protection of property from damage by the overflow of the Connecticut River.

Toward the cost of the work a contribution of \$2,000 was made by the town of Hadley. The construction is now being carried on by local labor, in accordance with the request of the Selectmen.

Amount expended during the year, \$3,214.09. Total expenditure to Dec. 1, 1933, \$121,955.04.

CUTTYHUNK HARBOR, GOSNOLD

Chapter 179 of the Acts of 1933, authorizes the Department to dredge and enlarge the harbor in the town of Gosnold at an expenditure not exceeding \$10,000, provided a contribution of 10% of the cost of the work is made, and the town assumes liability for damages.

At a town meeting held May 26, 1933, the town voted to assume liability for damages in accordance with the provisions of the act, and in June sent the required contribution of \$1,000.

A contract was made on June 27, 1933, with the Saybrook Dredging Company for dredging in Cuttyhunk Harbor a channel 75 feet wide on the bottom and 10 feet deep at mean low water, and to the same depth a basin 300 feet wide and 500 feet long on the bottom at the following contract prices: for dredging and disposing of the excavated material on shore by the hydraulic process, including construction of necessary dikes and sluices, 28.8 cents per cubic yard measured in situ; for removing and disposing of boulders \$10 per cubic yard. This work was completed Sept. 9, 1933, at a contract cost of \$9,160.70.

After the completion of the dredging the engineer reported that shoaling in this harbor is chiefly due to the passing of sand over the top of the northerly jetty and recommended the building of a concrete wall on the stone work of this jetty. As the materials needed are available a short distance from the jetty, it was suggested that the project be carried out on a day basis by using local labor. This work has been authorized by the Board and is now in progress by the method suggested.

Amount expended during the year, \$12,846.93. Total expenditure to Dec. 1, 1933, \$83,935.78.

DENNIS SHORE

Hearing was held Jan. 25, 1933, on the petition of George F. James and Mary Buckley for the building of a stone jetty on the easterly side of property of Fred H. Buckley at Dennisport to check the erosion taking place along the shore.

On Aug. 15, 1933, a contract was made with Sidney W. Lawrence for the construction of a stone jetty at Dennisport at a contract price of \$3.12 for each ton of 2,000 pounds of stone riprap and granite chips furnished and placed in the jetty. This work was completed Oct. 14, 1933, at a contract cost of \$1,007.76. Toward this cost a contribution of \$600 was made by the owners of property involved.

On Sept. 6, hearing was held upon the petition of the Selectmen of Dennis for the protection of the shore westerly of Nobscusset Harbor.

On Sept. 19, 1933, a contract was made with Sidney W. Lawrence to construct two stone jetties west of Nobscusset Harbor at a contract price of \$3.10 for each ton of stone riprap furnished in place in the completed work. Toward the cost of these jetties a contribution of \$600 each has been made by the town of Dennis and by the County of Barnstable. This work is now in progress.

Hearing was also held on Sept. 6, 1933, upon the request of the town officials for protection of the property of the town at Bathhouse Beach, West Dennis, from erosion by the sea.

On Nov. 28, 1933, a contract was made with Sidney W. Lawrence to build a stone jetty at this beach at a contract price of \$3.10 for each ton of stone riprap and granite chips furnished and placed in the jetty.

Toward the cost of this work a contribution of \$375 has been made by the Town, and an equal amount by the county.

Amount expended during the year, \$884.95. Total expenditure to Dec. 1, 1933, \$884.95.

ELLISVILLE HARBOR, PLYMOUTH

For some years the work of repairs at this harbor has been carried out by local labor under the general direction of the Department. During the current year the dike and the timber work in the jetty have been repaired by this method.

A letter contract of June 21, 1933, was also made with Arthur K. Finney to furnish a caterpillar crane and excavate the entrance channel at a price of \$4 per hour. This work was completed July 13, 1933, at a contract cost of \$200.

Amount expended during year, \$499.40. Total expenditure to Dec. 1, 1933, \$20,673.58.

FALMOUTH INNER HARBOR

Hearing was held on Aug. 16, 1933, on the petition of the Selectmen of Falmouth for widening and deepening the entrance from Vineyard Sound into Falmouth Inner Harbor.

A contract was made on Sept. 5, 1933, with the Bay State Dredging and Contracting Company for dredging in the entrance channel to a depth of 10 feet at mean low water and a width of 100 feet on the bottom at the following contract prices: for dredging and disposing of the dredged material 47 cents per cubic yard, scow measurement; for removing and disposing of boulders \$20 per cubic yard. This work was completed Oct. 4, 1933, at a contract cost of \$3,611.48. Toward this cost a contribution of \$2,000 was made by the town of Falmouth.

Amount expended during the year, \$3,883.37. Total expenditure to Dec. 1, 1933, \$154,279.63.

GREEN HARBOR, MARSHFIELD

On Dec. 27, 1932, a contract was made with Thomas Whalen & Sons, Inc., for placing about 600 tons of stone riprap to protect the shore, adjacent to the northerly end of the east jetty at the entrance to Green Harbor, at a contract price of \$1.88 for each ton of stone riprap or chips furnished in place in the completed work, including all excavation, backfilling and incidental work. This project was completed Feb. 25, 1933, at a contract cost of \$1,341.43.

Amount expended during the year, \$1,769.01. Total expenditure to Dec. 1, 1933, \$167,238.38.

GUN ROCK — GREEN HILL SEA WALL, HULL

The building of eight concrete spur jetties and the placing of a concrete footing in front of a part of the sea wall between Gun Rock and Green Hill, under contract of Oct. 25, 1932, with Thomas Whalen and Sons, Inc., was completed Dec. 29, 1932, at a contract cost of \$1,095.22.

On Mar. 15, 1933, a letter contract was made with George W. Starbuck for repairs to a damaged portion of the sea wall, at a contract price of \$980. This work was completed Apr. 21, 1933.

In October letters were received from property owners complaining of the condition of parts of this wall and asking further protection for the shore. The Department offered to place riprap at an estimated cost

of \$2,500 upon receipt of a contribution of one-half this cost. The town has voted to make the necessary appropriation, but, on account of the objection made by some of the property owners to the use of riprap along this shore no further action has been taken.

Amount expended during the year, \$2670.29. Total expenditure to Dec. 1, 1933, \$42,093.96.

HARWICH SHORE PROTECTION

The work of building a stone jetty at West Harwich under contract of Nov. 9, 1932, with Sidney W. Lawrence was completed Dec. 17, 1932, at a contract cost of \$714.43.

Hearing was held Jan. 25, 1933, on petitions of the Selectmen of Harwich for further shore protection.

In October the Barnstable County Commissioners voted to make a contribution of \$2,000 toward the cost of shore protection, to be used with the appropriation of an equal amount by the town. Proposals for building seven jetties on the beach east of Allens Harbor, for extending the jetty and placing riprap at West Harwich, and for repairs to jetty and riprap at South Harwich, are to be received early in December.

Amount expended during the year, \$1,070.59. Total expenditure to Dec. 1, 1933, \$31,822.24.

HERRING RIVER, HARWICH

On Feb. 7, 1933, a contract was made with Arthur K. Finney to furnish and place sand along the easterly shore of Herring River, Harwich, on property of Charles E. LeBuff, for the lump sum of \$572. Work was completed Apr. 6, 1933, at a contract cost of \$572. Toward this cost a contribution of \$300 was made by the town of Harwich.

Complaints were received in June of shoaling at the mouth of Herring River in an amount sufficient to prevent the entrance of yachts accustomed to use this harbor. As the dredging plant of the Saybrook Dredging Company was just completing dredging at Witchmere Harbor, a letter contract with this Company was made on July 7, 1933, for dredging the entrance channel to Herring River 100 feet wide and 6 feet deep at mean low water at a contract price of \$1,800. This work was completed July 14, 1933.

Amount expended during the year, \$2,690.61. Total expenditure to Dec. 1, 1933, \$134,720.58.

HERRING RIVER, WELLFLEET

Chapter 217 of the Acts of 1933 authorizes the Department, for the purpose of providing better drainage above the dike across the mouth of Herring River, to make, in consultation with the State Reclamation Board, such changes as appear necessary in the dike and its appurtenances, and to dredge or clear all obstructions in the channels above the dike at an expenditure not exceeding \$10,000.

Repairs and changes in the dike by the use of local labor in charge of an inspector from the Department, have been made in accordance with plans agreed upon by the Department of Public Works and by the State Reclamation Board. This part of the work has cost approximately \$3,000.

In repairing the dike sections of the floor have been removed and the area beneath has been filled with concrete to seal leaks causing damage to the structure. A section of the upper part of the timber sluices was also removed and replaced by a reinforced concrete slab. The two tide gates were changed to permit discharge of water under a smaller head, and the sluice gate was replaced by the so-called "barn-door" type gates. As a result of these changes the discharge of water through the dike has been increased about fifty percent. This additional discharge area will maintain the water level of the pond above the dike at a lower elevation

which will facilitate the flow from the more remote portions of the marsh land drained by Herring River.

To carry out the drainage work above the dike, the two Boards have decided to hire on an hourly basis a caterpillar crane, including an operator and fuel, and to secure from local sources the additional labor required. This method permits of greater flexibility and allows changes from day to day as conditions necessitate. This work is now in progress.

Amount expended during the year, \$4,811.12. Total expenditure to Dec. 1, 1933, \$39,320.50.

HYANNIS HARBOR, BARNSTABLE

The work under contract of June 28, 1932, with Thomas Whalen and Sons, Inc., for building about 900 linear feet of creosoted timber bulkhead, was completed Dec. 10, 1932, at a contract cost of \$10,699.10.

The dredging of three areas in the harbor under contract of Aug. 9, 1932, with the Saybrook Dredging Company was completed May 13, 1933, at a contract cost of \$23,766.08.

The laying of pipes and building of four catch basins at the town landing east of Ocean Street under contract of Oct. 4, 1932, with Thomas Whalen and Sons, Inc., was completed Nov. 26, 1932, at a contract cost of \$821.50.

The work under the various contracts has provided a channel with a depth of 9 feet at mean low water from the outer harbor to the harbor head, and additional anchorage areas 6 feet deep at mean low water. The bulkhead now offers facilities for tying up yachts and fishing vessels of a draft of not more than 9 feet.

Amount expended during the year, \$29,246.94. Total expenditure to Dec. 1, 1933, \$40,494.50.

LAGOON POND, OAK BLUFFS AND TISBURY

Work under contract of Aug. 23, 1932, with Merritt-Chapman and Scott Corporation for dredging a channel at the entrance to Lagoon Pond and for building a stone jetty on the easterly side of the entrance was completed Dec. 21, 1932, at a contract cost of \$24,101.16.

The completion of this project has provided an entrance channel 6 feet deep at mean low water into Lagoon Pond, and a jetty of much value in improving the channel depth and causing the accretion of material along the Oak Bluffs shore where erosion has been rapid for many years.

Amount expended during the year, \$9,379.86. Total expenditure to Dec. 1, 1933, \$25,855.90.

LONG BEACH, ROCKPORT

The sea wall built by the Commonwealth in 1931 along this beach was somewhat damaged by the storm of Jan. 25-28 of this year, making it necessary to place a concrete footing under a part of the structure and riprap protection along the toe.

Under a letter contract of Feb. 21, 1933, with Napoleon J. Loran-deau a concrete footing was placed under about 250 feet of this wall. The work was completed Mar. 11, 1933, at a contract cost of \$1,030.66.

On Apr. 25, 1933, a contract was made with Thomas Whalen and Sons, Inc., for furnishing and placing about 2,000 tons of stone riprap and chips to protect the face of a portion of the concrete sea wall at Long Beach at a contract price of \$1.43 per ton for riprap or stone chips furnished and placed in the completed work. This project was completed June 2, 1933, at a contract cost of \$3,134.74. Toward this cost a contribution of \$1,700 was made by the town of Rockport.

Amount expended during the year, \$4,790.25. Total expenditure to Dec. 1, 1933, \$57,306.56.

MARSHFIELD SHORE PROTECTION

Under the provisions of Chapter 407 of the Acts of 1931, protective work along the Marshfield shore has been continued during the year.

The building of the sea wall south of the U. S. Coast Guard Station at Brant Rock, under contract of Sept. 27, 1932, with A. Piatelli and Company was completed Jan. 2, 1933, at a contract cost of \$8,643.15.

To repair damage caused by the storm of Jan. 25-28, a letter contract was made on Feb. 14, 1933, with Frank H. Barry to place concrete footing under the wing wall at the northerly end of the sea wall at Fieldstone. This work was completed Mar. 20, 1933, at a contract cost of \$1,260.32.

On June 6, 1933, a contract was made with the Corsetti and Arcese Company for building about 400 linear feet of concrete sea wall, about 115 feet of reinforced concrete footing and about 250 linear feet of reinforced concrete cap and back to old masonry wall. and for backfilling about 250 linear feet of wall, at Brant Rock. The contract prices for this work are: for furnishing material and constructing the concrete sea wall, including all excavation, backfilling, removing old walls and all incidental work, \$7.32 for each cubic yard of concrete measured in the completed work; for furnishing material and constructing the reinforced concrete footing, including all excavation, filling and backfilling, removing old walls or structures and all incidental work, \$8.00 for each cubic yard of reinforced concrete measured in the completed work; for furnishing material and constructing the reinforced concrete cap, backing and steel dowels, including all excavations, backfilling, and all incidental work, \$8.60 for each cubic yard of reinforced concrete in the completed work; for each cubic yard of filling material furnished, delivered and measured in place in the completed work 40 cents. This work was completed Aug. 30, 1933, at a contract cost of \$7,880.63.

Amount expended during the year, \$14,692.35. Total expenditure to Dec. 1, 1933, \$229,665.64.

NAHANT SHORE PROTECTION

By Item 591a of Chapter 371 of the Acts of 1933 an appropriation of \$15,000 is made available for shore protection in Nahant as soon as the town pays an equal sum into the State Treasury.

The town made the required contribution in August, and contract was made on Oct. 10, 1933, with the M. McDonough Company to place about 14,000 tons of heavy stone riprap for the protection of about 2,400 linear feet of shore on the westerly side of Nahant Road, at a contract price of \$1.18 for each ton of stone riprap furnished in place in the completed work.

This work is now in progress.

Amount expended during the year, \$2,296.28.

NEW BEDFORD STATE PIER

Because of the landing of unusually large cargoes of cotton at the State Pier early in the year, the commercial and shipping interests of New Bedford asked for an increase in the covered area for the receipt of goods, in order that proper protection might be assured while cargo was waiting for shipment.

At about this time also the Lamport Manufacturing Supply Company, Inc., requested a reduction in the rental which this year increased from \$6,000 to \$10,000 per annum under the terms of the lease of July 29, 1927, of a portion of the pier.

At the request of the Mayor and Aldermen under the provisions of Chapter 375 of the Acts of 1920, a public hearing was held on these matters in New Bedford on Mar. 23, 1933. At the hearing and at various

conferences held relative to the situation, it was evident that while the City authorities and the Board of Commerce wished to secure more space for cargo at the pier, they were desirous of retaining for the city the industry carried on at the pier by the Lamport Manufacturing Supply Co., Inc. This industry was considered of particular value to the city at this time because of the employment it provides for local workers.

After consideration of all the circumstances the Department suggested that a new lease be executed requiring the Company to surrender for shipping and cargo purposes a part of the northerly platform in the wooden shed on the pier, and granting in return for this concession a reduction in rental sufficient to ensure the continuance of the industry desired by the city. Under date of Apr. 27, 1933, an indenture was executed abrogating by mutual agreement the lease of July 29, 1927, and negotiating a new lease for a term of three years. This instrument, approved by the Governor and Council May 3, 1933, reserves for the use of shipping 180 feet of the northerly platform of the wooden shed, and fixes the rental of the Lamport Manufacturing Supply Company, Inc., at \$5,500 per year for the term of the lease.

On July 5, 1933, a contract was made with the J. S. Packard Dredging Company to dredge the north and south docks and their approaches at the New Bedford State Pier: the north dock and approach to a depth of 30 feet at mean low water with a bottom width of 57 feet; the outer portion of the south dock and approach to a depth of 25 feet at mean low water with a bottom width of 40 feet; the inner portion of the south dock to a depth of 20 feet at mean low water with a bottom width of 40 feet. The contract prices for this work are: for dredging and disposing of the dredged material 48 cents per cubic yard, scow measurement; for removing and disposing of boulders \$20 per cubic yard. Because of the high unit costs of this work the funds available limited the project to the dredging of the northerly dock and of the approaches to both docks. Work was completed Oct. 2, 1933, at a contract cost of \$6,999.96.

Proposals for new doors, steel sash and repairs to plaster walls by the gunite process were received Nov. 28, 1933, and contract for the work awarded to the National Gunite Contracting Company.

Minor repairs to the pier have been made as usual during the year.

Amount expended for operation, maintenance and improvement during the year, \$13,594.63.

Income during the year, \$19,248.84.

Total expenditure for operation, maintenance and improvement to Dec. 1, 1933, \$137,988.12.

OAK BLUFFS SEA WALLS

The work of repairs and additions to the timber bulkhead and jetties at the Highlands, carried on under letter contract of Nov. 28, 1932, with Arthur K. Finney, was completed Jan. 17, 1933, at a contract cost of \$2,348.57. Toward this cost a contribution of \$1,500 was made by the town.

Under contract of Nov. 29, 1932, with the Merritt-Chapman and Scott Corporation for the removal of a broken section of the concrete sea wall southerly of the entrance to Lake Anthony, for the building of a new section, and for the placing of riprap, work was completed Jan. 16, 1933, at a contract cost of \$2,259.65.

On Sept. 5, 1933, a contract was made with the Pasquale Construction Co., Inc., for the construction of about 145 linear feet of concrete footing along the toe of the existing concrete sea wall north of the Steamboat Wharf at a contract price of \$23 per cubic yard for each cubic yard of concrete measured in place in the completed work.

Additional work was authorized later under this contract to pro-

vide for the placing of a concrete footing under another section of wall undermined by the storms in September. The entire work was completed Oct. 11, 1933, at a contract cost of \$1,340.21.

A contract was made on Sept. 19, 1933, with Joseph W. Nickerson to place stone riprap to protect the southerly shore of Lake Anthony adjacent to the highway at a contract price of \$2.98 for each ton of stone riprap furnished in place in the completed work. This project was completed Oct. 24, 1933, at a contract cost of \$909.82. Toward this cost a contribution of \$500 was made by the town.

An examination during the year of the section of shore near the bathhouse southerly of the steamboat wharf, revealed so much damage to sea walls in this location that the highway is in danger of being undermined if the erosion continues. The town appropriated \$6,000 as a contribution toward the cost of building a sea wall and spur jetties, but has been unable to secure the releases necessary from the Vineyard Grove Company, owner of adjacent property. Under these circumstances no protective work has been undertaken at this shore.

Amount expended during the year, \$8,426.24. Total expenditure to Dec. 1, 1933, \$238,511.08.

ORLEANS SHORE

A contract was made on June 27, 1933, with J. W. Nickerson for placing stone riprap to protect the shore adjacent to the highway bordering Pleasant Bay in the town of Orleans, at a contract price of \$2.98 for each ton of stone riprap furnished in place in the completed work, including all excavation, back filling and incidental work. The work was completed July 28, 1933, at a contract cost of \$1,747.41. This cost was paid from funds available for highway maintenance.

Amount expended during the year, \$1,861.03.

COMMONWEALTH PROPERTY AT PLYMOUTH

An appropriation of \$3,800 was made by the Legislature this year for the maintenance and repair of property at Plymouth acquired by the Pilgrim Tercentenary Commission and placed under the jurisdiction of the Department by vote of the Governor and Council on July 17, 1924.

The usual care of the grounds and of the pier and necessary minor repairs were carried on during the year.

Requests received from various steamship lines for the use of the pier for passenger service made it advisable to amend the rules and regulations adopted in 1927. The following amendment was approved by the Governor and Council on June 21, 1933:

"Said pier shall not be used for commercial purposes by any person or concern except by boats for the embarkation or landing of passengers."

Amount expended during the year, \$3,407.07. Total expenditure to Dec. 1, 1933, \$48,056.48.

PROVINCETOWN TERCENTENARY COMMISSION

During the year the land at Provincetown acquired by the Provincetown Tercentenary Commission and placed under the control of the Department June 23, 1926, has been cared for from funds appropriated for this area and the Province Lands. An employee of the Department has been kept at work during the summer to maintain the park in proper condition.

SCITUATE SEA WALLS

North Scituate

During the winter an inspection of the concrete sea wall at Surfside road found a section about 100 feet long undermined to a depth of 2 feet, and one of the spur jetties practically destroyed. A letter contract

was made under date of Feb. 14, 1933, with Frank H. Barry for the necessary repairs. The work was completed May 19, 1933, at a contract cost of \$2,540.91.

Work Under Special Legislation

By Chapter 286 of the Acts of 1933 the Department is authorized to expend not more than \$75,000 to build extension to certain sea walls and to repair existing sea walls and other shore protection in the town of Scituate. The Act stipulates that no work shall begin until the Town has voted to accept the provisions of the statute, assumed liability for damages and paid into the Treasury of the Commonwealth \$18,750, nor until the County Commissioners of Plymouth County have voted to accept the provisions of the Act and said County has paid \$18,750 into the State Treasury.

In August the Selectmen and County Commissioners filed with the Department certified copies of the required votes accepting the provisions of the Act. The Town also voted to assume all liability for damages. The contributions from the town and county made in accordance with the provisions of the statute were received in early September.

Under authority of this act work has been done covering the construction, extension and repair of sea walls in Scituate, and riprap protection of the shore, as follows:

Glades

On Oct. 4, 1933, a contract was made with Thomas Whalen and Sons, Inc., for the construction of about 250 linear feet of reinforced concrete cap and face to old concrete wall, the removal of about 128 feet of old concrete wall, and the placing of about 3,000 tons of stone riprap along the face of the concrete wall at the Glades, at the following contract prices: for furnishing material and constructing reinforced cap and face of wall, \$10 for each cubic yard of reinforced concrete measured in the completed work; for furnishing the stone riprap and depositing it in place along the concrete wall, \$1.65 for each ton of stone riprap furnished and in place in the completed work; for removing and disposing of about 128 linear feet of old concrete wall, the lump sum of \$150. This work was completed Nov. 24, 1933, at a contract cost of \$8,824.58.

Sand Hills and Cedar Point

An examination made in November of the sea walls at the Sand Hills found repairs needed to the wall originally built by the County and to the sea wall at Cedar Point damaged by action of the shingle on the beach. The repairs necessary for restoring these walls have been authorized, but no work has yet begun.

Shore Acres

On Sept. 5, 1933, a contract was made with Henry N. Worthington to furnish and place about 4,200 tons of heavy stone riprap and about 800 tons of stone chips to protect approximately 700 linear feet of bank at Shore Acres, at a contract price of \$1.38 for each ton of heavy stone riprap and chips furnished and placed in the completed work. Work under this contract was completed Nov. 11, 1933 at a contract cost of \$4,697.52.

A contract was made on Sept. 5, 1933, with A. K. Finney for the construction of about 930 linear feet of concrete sea wall, and the placing of about 1,100 tons of heavy stone riprap in front of the wall at Shore Acres, at the following contract prices: for furnishing material and constructing the concrete sea wall \$7.82 for each cubic yard of concrete measured in the completed work; for furnishing and placing heavy stone riprap for apron \$1.92 for each ton in the completed work. Under this contract, work is now in progress.

On Sept. 5, 1933, proposals were received for building a concrete sea wall and riprap apron along the shore in front of Oceanside Drive from a point northerly of Fourth Avenue to Eleventh Avenue. Protests from various owners of property were received against the building of the wall for a distance of about 600 feet easterly from Eleventh Avenue. The objections were carried to the point of the filing of a suit of equity in this matter.

Thomas H. Hannaford to whom the contract was awarded agreed to accept its terms and to build the shorter structure excluding the portion of the wall under controversy. On Sept. 12, 1933, a contract was made with Thomas H. Hannaford for the construction of about 2750 linear feet of concrete sea wall, seven concrete jetties, and furnishing and placing about 3,300 tons of heavy stone riprap in front of the wall, extending from the Sand Hills to Shore Acres, at the following contract prices: for furnishing material and building the concrete sea wall and jetties, \$7.79 for each cubic yard of concrete measured in the completed work; for furnishing and placing heavy stone riprap for apron, \$2.243 for each ton in the completed work. This work is now in progress.

Later in the season the property owners reached some compromise in the matter and asked the Department to build the remaining section of sea wall in accordance with the original specifications. No further action has been taken by the Department.

Third Cliff

A contract was made on Sept. 5, 1933, with Raymond A. Bergesson to place about 1,500 tons of stone riprap along the shore at Third Cliff, at a contract price of \$1.90 for each ton of riprap or stone chips furnished and placed in the completed work. This work is now in progress.

Amount expended in Scituate during the year for shore protection, \$45,532.14. Total expenditure to Dec. 1, 1933, for shore protection in Scituate, \$450,998.99.

TAUNTON RIVER

No work has been done by the Department this year upon the project to be carried out under the provisions of Chapter 405 of the Acts of 1930, by the dredging of a turning basin in Taunton River at Weir Village at the terminus of the channel to be dredged by the Federal Government to a depth of 12 feet at mean low water in the river.

As the Federal Government has not yet completed the channel, it was considered inadvisable to excavate the turning basin. It is expected that the channel will be finished during the coming year so that the Department can proceed to dredge the basin.

No expenditure during the year. Total expenditure to Dec. 1, 1933, \$31,561.95.

WARRENS COVE, PLYMOUTH

The damage done by heavy storms to the sea wall built by the Commonwealth in 1916 and 1917 near the Hotel Pilgrim has resulted in partially destroying the structure and in exposing the bank to severe erosion. The need for repairs and for the placing of riprap has been urgent for some years.

During the storm of Jan. 27-28 the bank back of the Hotel was further eroded and three walls built by owners of property between the two sections of the wall constructed by the Commonwealth, were completely destroyed. Requests were received from the town and from the property owners for adequate protection for this shore.

Repairs to existing walls, the building of concrete spur jetties and new walls, and the placing of riprap are provided for under the following contracts.

A contract was made on Apr. 25, 1933, with Tocci Bros. for building about 265 linear feet of concrete sea wall and five concrete jetties at Warrens Cove, Plymouth, at the following contract prices; for furnishing material and constructing the sea wall, \$8.50 for each cubic yard of concrete measured in the completed work; for furnishing materials and constructing five concrete jetties, \$8.50 for each cubic yard of concrete measured in the completed work. These structures were completed June 3, 1933, at a contract cost of \$5,170.94. Toward this cost contributions amounting to \$3,000 were made by the owners of property benefiting by the protection afforded by the work.

On May 16, 1933, a contract was made with Arthur K. Finney to furnish and place about 4,200 tons of stone riprap and chips for shore protection, to make repairs to an existing concrete sea wall and to build two concrete jetties, at the following contract prices: for each ton of stone riprap or chips in place in the completed work, \$1.82; for each cubic yard of concrete in place in concrete wall, jetties or footings, \$8. Toward the cost of this project a contribution of \$2,500 has been made by the town. The work is now in progress.

Amount expended during the year, \$8,949.51. Total expenditure to Dec. 1, 1933, \$34,241.86.

WEST CHOP, TISBURY

The work of building stone jetties under contract of Aug. 16, 1932, with Joseph W. Nickerson, was completed Dec. 7, 1932, at a contract cost of \$4,175.48.

The low price secured by the Department for furnishing and placing stone riprap and granite chips in the work allowed the extension of the protection by the building of two additional stone jetties westerly of those originally proposed. The five jetties have been of much benefit in checking erosion, but have been somewhat damaged by the winter storms. The protective work needs to be extended farther to the west and repairs should be made to the present jetties.

Amount expended during the year, \$1,394.32. Total expenditure to Dec. 1, 1933, \$5,116.07.

WINTHROP BREAKWATER

By Chapter 256 of the Acts of 1932 the Department is authorized for the purpose of protecting Winthrop Shore Drive and other shore property in Winthrop, to construct a breakwater about 1,000 feet easterly of the shore or in such other location as it may deem advisable, at an expenditure of not more than \$150,000. The statute provides that no work shall be begun until the Town has contributed and paid into the State Treasury the sum of \$25,000.

The contribution required from the Town was received in May, 1933, and on June 27, 1933, a contract was made with the Merritt-Chapman & Scott Corporation for building a stone breakwater in Broad Sound off Winthrop Shore Drive in the town of Winthrop at a contract price of \$2.22 for each ton of stone riprap furnished in place in the completed work. Under this contract work was completed Nov. 30, 1933, at a contract cost of \$146,521.33.

Three sections of stone breakwater, about 1,000 feet easterly from the shore, have now been built, the two northerly sections to a length of about 300 feet each, and the southerly one to a length of about 240 feet. Gaps about 100 feet wide at the mean high water line have been left between these sections in the expectation that the effectiveness of the structures will not be diminished while the cost has been lessened. If it seems advisable later, these gaps can be filled by building connecting structures.

The present breakwater provides for less than one-half the length

of shore needing protection. It is hoped that funds will be made available during the coming year to extend the structure.

Amount expended during the year, \$11,279.49. Total expenditure to Dec. 1, 1933, \$208,861.53.

WITCHMERE HARBOR, HARWICH

A contract was made Apr. 25, 1933, with the Saybrook Dredging Company for dredging the entrance channel to Witchmere Harbor to a depth of 6 feet at mean low water and a width of 40 feet on the bottom with increased width at the harbor end, at a contract price of 56 cents per cubic yard measured in place for dredging and disposing of the excavated material on marsh and flats by the hydraulic process, including the construction of necessary dikes and sluices.

While this dredging was going on the contractor offered to extend the channel through the two outer shoals in Nantucket Sound at an additional price of \$1,000. This offer was accepted by the Department. The entire project was completed June 29, 1933, at a contract cost of \$5,888.79. Toward this cost a contribution of \$2,500 has been made by the town of Harwich.

Amount expended during the year, \$6,391.54. Total expenditure to Dec. 1, 1933, \$69,942.75.

Miscellaneous

GREAT PONDS

Jurisdiction over great ponds belonging to the Commonwealth was conferred upon the Board of Harbor and Land Commissioners by chapter 318, Acts of 1888. This act applies to ponds containing in their natural state ten or more acres of land. Authority to sell and convey or lease, subject to the approval of the Governor and Council, any of the islands owned by the State in great ponds was later given by chapter 379, Acts of 1904, now section 2, chapter 91, General Laws.

During the year the Department has considered matters relating to: Blackmore's Pond, Wareham; Cedar Pond, Carver; Grass Pond, Harwich; Great Pond, Otis; Lake Quinsigamond, Worcester and Shrewsbury; Lake Tashmoo, Tisbury; Lake Winthrop, Holliston; Lead Mine Pond or Quassac Lake, Sturbridge; Long Pond, Harwich; Mill Ponds, Brewster; Nippinickett Pond, Bridgewater; Nutting Pond, Billerica; Oldham Pond, Hanson; Run Pond, Barnstable; Silver Lake, Pittsfield; Silver Lake, Wilmington; Snipatuit Pond, Rochester; South Pond, Barnstable; Whalom Lake, Lunenburg.

Surveys were made this year of the following great ponds:

Blackmore Pond, Wareham

Area at time of survey	45.36 A.
This pond may be drawn to an area of under license No. 832 approved by the Department of Public Works Sept. 28, 1927.	42.00 A.
Maximum depth	23.7 ft.

Cliff Pond, Brewster

Area at time of survey	201.19 A.
Maximum depth	94 ft.

Fawn Pond, Plymouth

Area at time of survey	46.63 A.
Area of natural pond	38.21 A.
Maximum depth	16.5 ft.

(Area at time of survey reported in 1932)

Flax Pond, Brewster

Area at time of survey	51.44 A.
Maximum depth	75 ft.

Long Pond, Rochester

Area at time of survey	33.84 A.
Depth note determined	

Lower Mill Pond, Brewster

Area at time of survey	52.07 A.
Area Natural Pond	37.99 A.
Maximum depth	13.0 ft.

Musquashiat Pond, Scituate

Area at time of survey	73.99 A.
Maximum depth	3.9 ft.

The height of water in this pond is affected to some extent by tide water and the water is brackish.

Snipatuit Pond, Rochester

Area at time of survey	704.9 A.
Pond contains three islands.	
Gull Island Area	0.33 A.
Low Bush Island Area	0.85 A.
High Bush Island Area	0.62 A.
These areas are not included in pond area.	
Depth not determined.	

Upper Mill Pond, Brewster

Area at time of survey	254.67 A.
Area natural pond	254.67 A.
Maximum depth	34.4 ft.

Amount expended during the year, \$3,696.37. Total expenditure to Dec. 1, 1933, \$29,029.71.

ACCESS TO GREAT PONDS

During the year one petition relative to access to a great pond has been heard under the provisions of Chapter 453 of the Acts of 1923.

On Dec. 14, 1932, public hearing was held before the Joint Board upon a petition of ten citizens of the Commonwealth for the establishment of a right of way to Jordan Pond in Shrewsbury and Worcester. At this hearing the petitioners, at the request of their attorney, were granted leave to withdraw.

By Chapter 180 of the Acts of 1933, the County Commissioners of Berkshire County were authorized to lay out a right of way in the town of Sandisfield to Lake Marguerite, also known as Simon pond, in said town for public access to said Lake, in accordance with plans approved by the Department of Public Works. Plans submitted by the County Commissioners were approved by the Department under date of Nov. 24, 1933.

PROVINCE LANDS

The territory belonging to the Commonwealth known as the Province Lands at Provincetown comprises about 3,810 acres lying northerly and westerly of a line described in chapter 470, Acts of 1893. By the terms of this act the Board of Harbor and Land Commissioners was given general care and supervision of this area.

Reclamation work under the direction of a superintendent has been carried on since 1894. To check the movement of the sand, the barren

dunes are first covered with brush or planted with beach grass. The grass is pulled in bunches about two inches thick and transplanted in rows about 4 feet apart and 6 inches deep. The transplanted grass lives between three and four years. This work is followed and reinforced by the transplanting of trees and shrubs.

During the year work on these lands has been continued in accordance with these methods. Sand dunes have been covered with brush; 30,000 native pines on the sod transplanted, and 150,000 seedling of Scotch and Austrian pines and 50 truck loads of bayberry planted.

Minor repairs have been made in replacing sod and in filling at the dike at Race Run.

The sum of \$101.05 has been paid into the State Treasury during the year from licenses issued for cultivating and picking cranberries on the bogs and for mowing meadows and from permits for occupying areas on these lands.

Amount expended during the year, \$4,700. Total expenditure to Dec. 1, 1933, \$166,634.58.

STATE BOUNDARY LINES

During the year about one and one half miles of the Massachusetts New Hampshire State line was relocated and two new monuments set in concrete.

TOWN BOUNDARY LINES

During the year several town boundary atlases were corrected and sold but no field work was done.

CONSERVING AND EQUALIZING THE FLOW OF WATER IN RIVERS AND STREAMS

By Chapter 359, Acts of 1909, chapter 564, Acts of 1912, and chapter 84, Resolves of 1917, co-operation was established between the Commonwealth and the Water Resources Branch of the United States Geological Survey, so that results of work relating to the gauging of streams within the Commonwealth and other work of a similar character carried on by the said survey have been obtained for use by the Department and are available for other Departments of the Commonwealth. Toward the cost of this work the Department has paid during the year, \$4,000.

During the year several of the stream gauging stations were rebuilt and improved, but the cost of this work was paid from Federal Funds.

RE-ESTABLISHMENT OF CERTAIN TRIANGULATION STATIONS

By section 33, chapter 91, General Laws, the Department is authorized to make such surveys and to do such other work as may be required by any order of the Land Court, to re-establish and permanently mark certain triangulation points and stations previously established in connection with the topographical survey of the Commonwealth, and the town boundary survey, which have been lost or destroyed and to obtain the geographical position of such new points and stations as may be required from time to time by the Court.

During the year the locations of the following triangulation stations were determined and permanently marked on the ground and the geographical positions furnished to the Land Court: 20 stations in Barnstable; 5 stations in Plymouth; 4 stations in Nantucket.

LICENSES AND PERMITS

During the year 99 licenses were granted for work to be done in tide water, great ponds, Connecticut River and Merrimack River and 108 permits for miscellaneous purposes. The Department also approved 106 permits granted by cities and towns for the construction and maintenance of fish weirs in tide waters.

EXPENDITURES FOR DEVELOPMENT AND IMPROVEMENT IN BOSTON HARBOR,
1859 — 1933, INCLUSIVE

<i>Payments</i>	<i>To Nov. 30, 1932</i>	<i>1933</i>	<i>Total</i>
Boston Harbor	\$1,615,209 17 ¹		
Maintenance of Property		\$883.37	
Dredging and filling		30,969 69	
Special appropriations		71,760 01	\$1,718,822 24
Commonwealth Flats, East Boston	3,093,326 83 ²	—	3,093,326 83
Commonwealth Flats, South Boston	4,892,123 69	—	4,892,123 69
Castle Island	742,204 91		
Dredging and filling		981.50	
Maintenance of Property		578.50	743,764 91
Commonwealth Pier No. 5, South Boston:			
Construction	4,014,790 45	—	4,014,790 45
Maintenance	687,511 36	36,955 11	724,466 47
Dredging	22,050 36	3,607 04	25,657 40
Operation and Supervision	1,657,942 31	101,319 54	1,759,261 85
Commonwealth Pier No. 1, East Boston:			
Construction	1,199,703 23	—	1,199,703 23
Operation and Supervision	120,247 69	6,731 57	126,979 26
Maintenance	19,917 15	1,467 97	21,385.12
Commonwealth Pier No. 6, South Boston:			
Construction	1,092,149 06	—	1,092,149 06
Maintenance	51,937 90	—	51,937 90
Dry Dock	3,169,651 15 ³	—	3,169,651 15
Hayward Creek	385,979 61 ⁴	—	385,979 61
Mystic River	429,632 95 ⁵	770.60	430,403 55
Malden River	32,804 54 ⁶	198.30	33,002 84
Chelsea Creek	60,561 88	295 15	60,857 03
Commercial Point, Dorchester Bay	53,213 10	—	53,213 10
Maintenance of Property (in addition to maintenance items listed above)	364,144 80	11,913 52	376,058 32
	<u>\$23,705,102 14</u>	<u>\$268,431 87</u>	<u>\$23,973,534 01</u>

¹ Contribution by Quincy Market Cold Storage and Warehouse Corporation in 1921 . . . \$4,000 00
By Bethlehem Ship Building Corporation in 1930 . . . 10,000 00

² Appropriated by City of Boston in 1926 . . . 10,000 00

³ Additional amount paid by State Treasurer from Development of the Port of Boston
Loan Sinking Fund in settlement of claims . . . 17,877 73

⁴ Contributions by Massachusetts Oil Refining Company and Bethlehem Ship Building Corporation . . . 38,600 00
Paid by State Treasurer for land taking . . . 3,725 27

⁵ Contribution by Merrimac Chemical Company
in 1920 . . . 15,000 00
in 1922 . . . 4,182 50

Contribution by Beacon Oil Company in 1920 . . . 50,000 00

⁶ Expended by United States Government . . . 31,000 00
Contribution by Standard Oil Company of New York in 1922 . . . 600 00

EXPENDITURES AND CONTRIBUTIONS FOR IMPROVEMENT OF SMALL HARBORS
AND CHANNELS WITHIN BOSTON HARBOR, UNDER THE DIRECTION
OF THE DEPARTMENT OF PUBLIC WORKS AND ITS PREDECESSORS,
FROM 1893 TO 1933, INCLUSIVE

<i>Locality and Character of Work</i>	Contributions by Municipality or Others	Total Expenditure
Cottage Park Channel, Winthrop, dredging	\$6,250.00	\$37,967 29
Dorchester, easterly shore, dredging and vey	1,000 00	210,767.61
Harbor View, dredging		146 00
Hingham Harbor, dredging	6,500 00	41,595 12
Houghs Neck, Quincy, dredging	7,500 00	46,088 31
Island End River, Everett, survey		264 10
Jeffries Point Channel, dredging		4,563 93
Mystic River (near Lawrence and Wiggin Wharf) dredging		5,927 70
Neponset River, dredging	10,000 00	109,401 63
Old Harbor Cove, dredging		10,520 48
Orient Heights Channel, dredging		45,412 38
Pemberton Point, Hull, breakwater	60,000 00	90,520 98
Pleasant Park Yacht Club Channel, dredging	3,000 00	16,241 49
Point Allerton, Hull, sea wall	50,000 00	75,127 05
Point Shirley, Winthrop		3,713 37
Quincy Bay, dredging	10,150 00	84,162 47
Shirley Gut, Boston and Winthrop, dredging		2,110 96
South Boston, Southerly Shore, dredging		129,542 08
Stony Beach, Hull, sea wall		12,556 58
Town River, Quincy, survey and dredging	16,050 00	57,663 25
Weir River, Hull, dredging	45,000 00	205,336 48
Wessagusset Channel, dredging		815 20
Weymouth Fore River, dredging	8,250 00	70,084 69
Winthrop Harbor Channels, dredging	17,192 00	73,984 22
	<hr/> \$240,892 00	<hr/> \$1,334,513 37

EXPENDITURES AND CONTRIBUTIONS FOR RIVER AND HARBOR WORK
FROM DECEMBER 1, 1932 TO NOVEMBER 30, 1933

<i>Location and Character of Work</i>	Contributions	Expenditures
Allens Harbor, Harwich, jetty repairs	\$6,500 00	\$12,438 63
Bass River, Dennis and Yarmouth, survey	—	31.60
Brant Rock, Marshfield, sea walls and riprap	—	14,692.35
Cape Cod Canal Pier, Bourne, construction	—	87,469 35
Cape Cod Canal Pier, Bourne, operation and maintenance	—	2,135 46
Cape Poge, Edgartown, survey	—	215 00
Connecticut River, Hadley, dike construc- tion	2,000 00	3,214 09
Connecticut River, Hatfield, survey	—	72 91
Conservation of Waters	—	4,000 00
Cotuit Harbor, Cotuit, survey	—	260 97
Cuttyhunk Harbor, Gosnold, dredging and jetty repairs	1,000 00	12,846 93
Dennisport, stone jetty	600 00	884 95
East Bay, Osterville and Barnstable, sur- vey	—	45 52

<i>Location and Character of Work</i>	<i>Contributions</i>	<i>Expenditures</i>
Ellisville Harbor, Plymouth, jetty repairs	—	499 40
Falmouth Inner Harbor, dredging entrance channel	2,000 00	3,883 37
Geological Survey Trust Fund	480 00	2,709 90
Gloucester Harbor, Gloucester, survey	—	16 08
Great Ponds, survey	—	3,696 37
Green Harbor, Marshfield, stone riprap	—	1,769 01
Harwich Beach, shore protection	4,000 00	197 18
Herring River, Harwich, dredging and filling	300 00	2,690 61
Herring River, Wellfleet, dike	—	4,811 12
Hull, sea walls, concrete jetties and sea wall repairs	—	2,670 29
Hyannis Harbor, Barnstable, bulkhead and dredging	—	29,246 94
Improvement of Rivers and Harbors, general expenses	—	7,573 62
Ipswich River, Ipswich, survey	—	1,007 52
Lagoon Pond, Tisbury and Oak Bluffs, dredging and jetty	—	9,379 86
Lake Anthony, Oak Bluffs, stone riprap	500 00	850 23
Lewis Bay, Barnstable, survey	—	69.60
Long Beach, Rockport, riprap and sea wall repairs	1,700 00	4,790 25
Manchester Harbor, Manchester, survey	—	131 29
Marshfield-Duxbury, survey	—	358 61
Nahant, riprap	15,000 00	2,296 28
Namequoit River and Pleasant Bay, Chatham, riprap	—	1,861 03
New Bedford State Pier, operation and maintenance	—	5,420 89
New Bedford State Pier, construction and alterations	—	8,173 74
Nobscusset Harbor, Dennis, stone jetties	1,200 00	433 72
Oak Bluffs, bulkhead and sea wall repairs	1,500 00	7,576 01
Onset Bay, Wareham, survey	—	257 11
Plymouth Memorial Park, maintenance	—	3,407 07
Province Lands, Provincetown, reclamation	—	4,700 00
Sagamore Beach, Bourne, survey	—	78 85
Salisbury Beach, survey	—	1,690 05
Scituate, shore protection	37,500 00	
First and Second Cliffs, riprap	—	79 35
General surveys, Scituate	—	160 49
Glades, Scituate, sea wall	—	8,013 46
Humarock Beach, survey	—	38 23
North Scituate, Surfside, sea wall repairs	—	3,313 42
Sand Hills, concrete ramp	—	239 07
Sand Hills to Shore Acres, sea wall and jetties	—	17,626 47
Shore Acres, Scituate, wall and riprap	—	12,913 13
Third Cliff, Scituate, riprap	—	6,991 94
Sengekontacket Pond, Oak Bluffs, survey	—	104 28
Shirley Gut, survey	—	104 01
Singing Beach, Manchester, survey	—	81 80
Stage Harbor, Chatham, survey	—	136 52
Truro Beach, head of Pamet River, survey	—	71 74
Waquoit Bay, Falmouth and Mashpee, bulkhead and jetties	—	365 13

<i>Location and Character of Work</i>	Contributions	Expenditures
Warrens Cove, Plymouth, riprap, jetties and sea walls	5,500 00	8,949 51
Water Conservation—see Conservation of Waters		
West Bay, Barnstable and Osterville, survey	—	89 95
West Chop, Tisbury, stone jetties	—	1,394 32
West Dennis Beach, stone jetty	750 00	55 85
West Harwich Beach, Harwich, stone jetty	—	873 41
Winthrop Shore, Winthrop, stone breakwater	25,000 00	111,279 49
Witchmere Harbor, Harwich, dredging entrance channel	2,500 00	6,391 54
	<hr/> \$108,030 00	<hr/> \$429,826 87

EXPENDITURES AND CONTRIBUTIONS FROM 1893 TO 1933, INCLUSIVE, FOR RIVER AND HARBOR WORK, UNDER THE DIRECTION OF THE DEPARTMENT OF PUBLIC WORKS AND ITS PREDECESSORS (EXCEPTING BOSTON HARBOR)

<i>Location and Character of Work</i>	Contributions by Municipality or Others	Total Expenditure
Acushnet River, inspection and dredging	—	\$119,810 10
Allens Harbor, Harwich, shore protection, dredging, riprap and jetties	\$18,927 50	51,146 43
Allens Pond, Dartmouth, survey	—	195 95
Angle Tree Monument, reservation	—	1,306 22
Annisquam River, Gloucester, dredging, removing ledges and riprap	13,250 00	171,498 69
Apponagansett Harbor and River, Dartmouth, survey, dredging and stone breakwater	—	55,786 05
Barnstable Harbor, Barnstable, dredging	7,500 00	30,693 16
Bass River, Beverly, dredging	55,535 75	81,075 56
Bass River, Dennis and Yarmouth, jetties, dredging and survey	22,595 00	182,445 07
Beach Street, Scituate — See Scituate.		
Beverly Harbor, Beverly, dredging	—	50,000 00 ¹
Brant Rock, Marshfield, shore protection	111,503 66	229,665 64
Brewster, Skaket Inlet, survey	—	617 19
Bucks Creek, Chatham, jetties, survey and dredging	2,500 00	39,719 69
Buzzards Bay, Falmouth, survey	—	166 11
Cape Cod Canal Pier, Bourne, construction	—	258,362 67
Cape Cod Canal Pier, Bourne, operation and maintenance	—	2,135 46
Cape Poge, Edgartown, cut through beach, jetties and riprap	16,500 00	42,905 09
Cataumet Harbor — See Megansett Harbor.		
Cedar Point, Scituate — See Scituate.		
Centerville River, Barnstable, dredging	19,711 50	44,329 77
Chatham, riprap and surveys	10,500 00	19,813 19
Cohasset Harbor, Cohasset, breakwater and dredging	42,691 88	116,191 93
Concord River, Billerica, removing boulders	150 00	1,664 59

¹ Expended by United States Government.

<i>Location and Character of Work</i>	Contributions by Municipality or Others	Total Expenditure
Connecticut River, investigation of navigation and surveys	—	8,878 96
Connecticut River, Agawam, protective work	—	18,814 42
Connecticut River, Chicopee, survey, wall and riprap	640 00	25,789 02
Connecticut River, Hadley, diversion wall and riprap	7,000 00	121,955 04 ²
Connecticut River, Hatfield, dikes and riprap	1,000 00	51,311 52
Connecticut River, Holyoke, dredging and protective work	1,991 29	9,253 27
Connecticut River, Holyoke, marking and lighting old piers	—	1,195 32
Connecticut River, Northampton, riprap	—	1,524 20
Connecticut River, Northfield, riprap	—	9,028 90
Connecticut River, South Hadley, wall	1,000 00	7,379 58
Connecticut River, Springfield and West Springfield, protective work	—	12,510 08 ³
Conservation of Waters, investigation	—	84,764 54
Cotuit Harbor, Barnstable, dredging, survey and bulkhead repairs	13,183 38	83,504 82
Cuttyhunk Harbor, Gosnold, jetties and dredging	10,000 00	83,935 78
Deacons Pond Harbor — See Falmouth Inner Harbor		
Dennisport, stone jetty	600 00	884 95
Duxbury Bay and Harbor, dredging	27,000 00	92,653 35
East Bay, Osterville, jetties, dredging and removing scows	10,000 00	70,969 75
Edgartown Harbor, Edgartown, survey and cut in beach	300 00	3,496 64
Ellisville Harbor, Plymouth, dredging and jetty repairs	—	20,673 58
Essex County Beaches, survey	—	1,000 00
Essex River, Essex, dredging	—	76,304 33 ⁴
Fall River Harbor, improvement	—	1,130 18
Falmouth Heights, Falmouth, sea wall and riprap	22,210 04	70,667 71
Falmouth Inner Harbor, dredging, jetties, wall and riprap	33,500 00	154,279 63
Falmouth, Menauhant Shore, bulkheads, jetties and riprap	3,100 00	6,075 33
First and Second Cliffs, Scituate — see Scituate		
Fresh Water Cove, Gloucester, dredging	3,300 00	17,477 53
Gay Head, survey	—	555 42
Geological Survey Trust Fund	3,000 00	3,000 00
Glades, North Scituate — See Scituate.		
Gloucester Fish Pier	—	396 91
Gloucester, Western Avenue, sea wall	35,000 00	60,000 00
Gloucester Harbor, Gloucester, dredging and removing ledges	15,000 00	148,802 79

² From 1888 inclusive.³ From 1891 inclusive.⁴ \$5,000 expended by United States Government.

<i>Location and Character of Work</i>	Contributions by Municipality or Others	Total Expenditure
Great Head, Winthrop — See Winthrop Shore		
Great Ponds, survey	—	29,029 71
Green Harbor, Marshfield, jetties, dredging and survey	42,500 00	167,238 38
Gun Rock Point, Hull, breakwater and sea wall repairs	16,135 41	77,939 33
Harbor Cove, Gloucester, survey and dredging	3,866 00	25,155 04
Harwich Beach, Harwich, shore protection	4,000 00	197 18
Harwich Shore, near Chatham Line, stone jetty	350 00	1,206 75
Herring Creek, Scituate, survey	—	253 76
Herring River, Harwich, jetties, dredging and riprap	36,400 00	134,720 58
Herring River, Wellfleet, dikes and ditches	10,000 00	39,320 50
Hoosac River, North Adams, excavation and survey	—	21,271 67
Housatonic River, Sheffield, survey	—	2,011 29
Hull, sea wall and jetties	8,882 06	42,093 96
Humarock Beach, Scituate — See Scituate.		
Hyannis Harbor, bulkhead and dredging	21,750 00	40,494 50
Hyannisport, Barnstable, survey and breakwater	2,500 00	65,017 76
Improvement of Rivers and Harbors, general expenses	—	55,494 21
Ipswich River, Ipswich, jetty, wall, riprap and dredging	3,800 00	60,087 07
Kings Beach, Swampscott, removal of obstruction	—	166 41
Lagoon Pond, Tisbury and Oak Bluffs, dredging and jetty	13,500 00	25,855 90
Lake Anthony, Oak Bluffs, jetties and dredging	16,000 00	98,261 74
Lake Quannapowitt, Wakefield, investigation	—	345 32
Lake Tashmoo, Tisbury, survey	—	432 88
Lewis Bay, Barnstable, survey and dredging	18,809 29	66,874 33
Little Harbor, Cohasset, survey	500 00	1,476 77
Little Harbor, Marblehead, dredging	2,500 00	11,166 16
Little River, Gloucester, survey	—	862 93
Lobster Cove, Gloucester, dredging	4,500 00	61,603 36
Long Beach, Rockport, sea wall	27,700 00	57,306 56
Lynn Harbor, Lynn, anchorage basin, survey and dredging	5,200 00	121,609 22
Lynn Harbor and Saugus River, dredging and filling	37,500 00	165,527 54
Manchester Harbor, Manchester, survey, jetties and dredging	83,000 00	189,838 88
Marshfield-Duxbury, survey	—	358 61
Mattapoissett Harbor, survey	—	255 48
Megansett Harbor, Bourne and Falmouth, dredging	12,730 00	52,116 66
Menamsha Inlet, Chilmark and Gay Head, jetties, dredging, sea wall and riprap	2,700 00	130,243 43
Merrimack River, investigation	—	1,208 50

<i>Location and Character of Work</i>	Contributions by Municipality or Others	Total Expenditure
Mill River, Gloucester, survey and dredging	300 00	24,899 59
Mitchells River, Chatham, survey and dredging	6,000 00	23,113 92
Monument Beach, Bourne, survey	—	326 40
Nahant, survey and riprap	15,000 00	2,378 43
Namequoit River and Pleasant Bay, dredging	5,500 00	30,390 65
Nantucket, survey of Sesachacha Pond	—	110 66
Nantucket Harbor, dredging	5,000 00	58,982 52
Nauset Harbor and Town Cove, Orleans, dredging	2,000 00	10,671 24
New Bedford Harbor, dredging	—	18,856 57
New Bedford State Pier, pier shed and dredging	13,446 74 ⁵	558,593 16
New Bedford State Pier, operation and maintenance	—	73,528 29
Newburyport Harbor, survey	—	115 97
Nobscussett Harbor, Dennis, breakwater, dredging, riprap and jetties	3,150 00	41,818 94
North River, Marshfield, survey and removing rocks	1,800 00	8,658 75
North River, Salem, survey	—	704 52
North Scituate — See Scituate.	—	594 95
Oak Bluffs, removing rocks	—	148,675 58
Oak Bluffs, sea walls, bulkhead and jetties	54,000 00	143 23
Ocean Grove, Swansea, survey	—	15,553 00
Onset Bay, Wareham, survey and dredging	1,000 00	104 18
Orleans, survey	—	358 76
Palmers Pond, Falmouth, survey	—	198,010 32
Pamet River, Truro, survey, dredging and repairing jetties	1,200 00	5,227 68
Paskamansett River, Dartmouth, dredging and jetty	—	5,192 95
Penikese Island, Gosnold, pile wharf and survey	—	904 80
Pines River, Revere and Saugus, survey	—	2,364 33
Pleasant Bay, Chatham, dredging	600 00	983 31
Plum Island River, Newbury and Newburyport, survey	—	324,565 02
Plymouth Harbor, dredging and removing old piling	92,794 55 ⁶	48,056 48
Plymouth Memorial Park, maintenance	—	46,252 33
Point Shirley, Winthrop — See Winthrop Shore	—	502 94
Poponessett Bay, Barnstable and Mashpee, dredging	—	166,634 58
Powow River, Amesbury, dredging channel and riprapping wall	—	28,730 81
Province Lands, Provincetown, reclamation	75 00	710 31
Provincetown Harbor, shore protection	—	2,194 50
Quamquisset Harbor, Falmouth, survey	—	275 00
Quansett Harbor, Orleans, survey and dredging	500 00	60,397 93
Red Brook Harbor, Bourne, removing pier	—	
Revere, stone breakwater	—	

⁵ Paid by Surety Company⁶ \$57,000 expended under direction of United States Government.

<i>Location and Character of Work</i>	Contributions by Municipality or Others	Total Expenditure
Rock Harbor, Orleans, dredging	2,400 00	20,832 51
Rockport Harbor, Rockport, dredging and removing rocks	4,750 00	32,897 46
Sagamore Beach, Bourne	—	78 85
Salem Harbor, Salem, survey	—	1,509 92
Salisbury Beach, survey	—	4,754 27
Salt Pond River, Eastham, survey	—	210 11
Salters Point, Dartmouth, breakwater	4,500 00	42,939 57
Sand Hills Scituate — See Scituate.	.	.
Sandwich Harbor, Sandwich, dredging channel, riprap and jetties	—	80,579 84
Saugus River, Lynn and Saugus, survey and dredging	2,000 00	20,845 17
Scituate, shore protection	75,000 00	
Beach Street, Scituate, wall and break- water	17,333 52	34,782 50
Cedar Point, Scituate, wall and break- water	21,446 64	41,298 70
First and Second Cliffs, Scituate, wall and riprap	2,797 92	19,553 12
Glades, North Scituate, filling and rip- rap	13,250 78	38,751 42
Humarock Beach, Scituate, survey, wall and jetties	37,816 38	83,583 74
North Scituate, Surfside, sea wall, jet- ties and riprap	2,194 68	33,144 84
Sand Hills, Scituate, wall and jetties	4,511 26	34,031 13
Third Cliff, Scituate, riprap and survey	75,193 10	134,770 21
General surveys at Scituate	—	543 73
Shore Acres, Scituate, riprap	—	12,913 13
Sand Hills to Shore Acres, Scituate, sea wall, jetties and riprap	—	17,626 47
Scituate Harbor, dredging and surveys	53,300 00	206,011 94
Scorton Harbor, Sandwich, jetty and dredg- ing	500 00	17,774 34
Seapuit River, Barnstable, dredging	13,000 00	25,088 55
Sengekontacket Pond, Oak Bluffs, survey	—	104 28
Sesuit Harbor, Dennis, jetty	1,500 00	24,555 10
Shirley Gut, survey	—	201 06
Singing Beach, Manchester, survey	—	81 80
Sippican Harbor, Marion, survey	—	615 66
Smiths Cove, Gloucester, survey and dredging	3,875 00	13,466 16
South Harwich, stone jetties and riprap	2,500 00	3,701 31
South River, Marshfield and Scituate, sur- vey	—	724 85
South River, Salem, dredging	3,000 00	13,462 66
South Watuppa Pond, Fall River, fenders and excavation	—	203 42
Stage Harbor, Chatham, dikes and survey	—	11,792 15
Steam Gauging — See Conservation of Waters		
Swampscott, survey	—	103 46
Taunton-Brockton, waterway investigation	—	5,278 18
Taunton River, survey and dredging	42,500 00	31,561 95

<i>Location and Character of Work</i>	Contributions by Municipality or Others	Total Expenditure
Taunton River-Boston Harbor Canal, survey	—	9,932 75
Taunton River-Massachusetts Bay Canal, survey	—	11,786 71
Truro Beach, survey	—	71 74
Vineyard Haven Harbor, Tisbury, breakwater and dredging	1,000 00	45,518 25
Vineyard Haven Harbor, repairing sea wall	2,380 50	11,945 01
Waquoit Bay, Falmouth, breakwater, wall, bulkhead and dredging	17,500 00	98,438 91
Wareham River, Wareham, survey and dredging	5,000 00	42,567 93
Warrens Cove, Plymouth, sea wall and survey	15,213 98	34,241 86
Watch Hill, Chatham, survey and riprap	—	14,968 75
Water Conservation — See Conservation of Water		
Wellfleet Harbor, Wellfleet, survey and dredging	1,500 00	17,600 29
West Bay, Barnstable and Osterville, dredging, jetties and riprap	16,128 07	114,607 52
West Chop, Tisbury, stone jetties	2,500 00	5,116 07
West Dennis Beach, stone jetty	750 00	55 85
West Falmouth Harbor, Falmouth, surveys, dredging and breakwater	11,473 75	63,520 95
West Harwich Beach, Harwich, shore protection	6,000 00	26,717 00
Western Avenue sea wall, Gloucester — see under Gloucester		
Westfield River, Westfield, survey and jetties	—	6,037 29
Westport Harbor, Westport, jetty extension and repairs	—	21,928 88
Wild Harbor, Falmouth — jetty and dredging	15,000 00	55,128 66
Winthrop Shore, Winthrop, sea walls and protective work	65,500 00	208,861 53
Witchmere Harbor, Harwich, jetties and dredging	6,000 00	69,942 75
Woods Hole, Great Harbor, Falmouth, dredging	1,500 00	6,968 86
Wrecks, removal from tide water	—	20,283 69
Yarmouthport Harbor, survey	7,000 00	95,977 37
	<hr/> \$1,644,194 63	<hr/> \$8,396,959 26

FEDERAL APPROPRIATIONS AND EXPENDITURES

Federal appropriations and expenditures for improvement of rivers and harbors in Massachusetts from the establishment of the government to the close of the fiscal year ending June 30, 1933, are shown in the following tables furnished by the Chief of Engineers, U. S. Army:—

TABLE NO. 1. — *Localities at Present Under Improvement*
(Compiled from the Annual report of the Chief of Engineers, U. S. Army,
for the fiscal year ending June 30, 1933)

<i>Locality</i>	<i>Expenditures</i>	<i>Appropriations</i>
Newburyport Harbor	\$506,298 13	\$506,748 13
Gloucester Harbor	545,575 63	545,575 63
Lynn Harbor	782,017 25	790,775 89
Boston Harbor	13,594,731 57	13,765,265 10
Plymouth Harbor	421,184 80	421,184 80***
Cape Cod Canal	12,466,263 56	12,851,195 56
Operating and Care, Cape Cod Canal	1,286,217 78	1,300,755 28
Pollock Rip Shoals	1,367,037 25	1,318,074 66
Cross Rip Shoals, Nantucket Sound .	34,822 14	41,967 20
New Bedford and Fairhaven Harbor .	1,327,418 91	1,337,848 53
Fall River Harbor	778,626 35	819,282 69
Taunton River	323,484 50	429,775 86
Total	\$33,433,677 87	\$34,128,449 33

***Exclusive of \$108,400 contributed funds.

TABLE NO. 2. — *Localities in Which Work is Not Now in Progress*
(Compiled from data furnished by the United States Treasury Department and the Chief of Engineers, U. S. Army)

<i>Locality</i>	<i>Expenditures</i>	<i>Appropriations</i>
Merrimack River	\$404,466 72	\$404,466 72
Malden River	149,950 00	149,950 00****
Sandy Bay, Cape Ann, Harbor of Refuge	1,941,478 00	1,941,478 00
Bass River	20,150 34	20,150 41
Buzzards Bay Harbor	2,500 00	2,500 00
Canapitset Channel	5,312 54	9,800 00
Chatham Harbor	12,171 36	13,732 79
Cohasset Harbor	10,000 00	10,000 00
Duxbury Harbor	37,000 00	37,000 00
East Dennis Breakwater	7 57	1,500 00
Edgartown Harbor	25,000 00	25,000 00
Essex River	30,000 00	30,000 00
Hingham Harbor	38,316 58	38,316 58
Hyannis Harbor	221,267 07	221,267 07
Ipswich River	5,617 91	5,617 91
Kingston Harbor	8,940 09	10,000 00
Little Harbor, Woods Hole	18,000 00	18,000 00
Manchester Harbor	23,985 57	23,985 57
Marblehead Harbor	833 42	1,900 00
Martha's Vineyard (Edgartown Harbor)	30,000 00	30,000 00
Powow River	50,940 72	51,000 00
Rockport Harbor	91,229 25	91,229 25
Town River	37,577 41	37,557 41
Vineyard Haven Harbor	55,387 35	55,387 35
Wareham Harbor	95,997 30	96,236 00
Wellfleet Harbor	11,365 57	16,000 00
Westport Harbor and River	3,000 00	3,000 00
Winthrop Harbor	9,000 00	9,000 00
Woods Hole Channel	343,599 92	344,000 00

****Exclusive of \$ 62,000 contributed funds.

<i>Locality</i>	<i>Expenditures</i>	<i>Appropriations</i>
Beverly Harbor	246,690 41	246,690 41*
Salem Harbor	107,956 57	107,956 57
Mystic River	306,684 84	306,684 84
Dorchester Bay and Neponset River	128,176 44	128,176 44
Weymouth Fore River	641,150 00	641,150 00**
Weymouth Back River	27,000 00	27,000 00
Scituate Harbor	126,590 98	126,590 98
Provincetown Harbor	348,062 72	348,062 72
Harbor of Refuge at Nantucket	694,582 83	694,582 83
Total	\$6,309,989 48	\$6,324,989 85

*Exclusive of \$100,000 contributed funds

**Exclusive of \$100,000 contributed funds

RECAPITULATION

	<i>Expenditures</i>	<i>Appropriations</i>
Total of Table No. 1	\$33,433,677 87	\$34,128,449 33
Total of Table No. 2	6,309,989 48	6,324,989 85
	\$39,743,667 35	\$40,453,439 18

EXPENDITURES ON BOSTON HARBOR AND ITS TRIBUTARIES TO JUNE 30, 1933

(The tributaries given are those now under improvement and do not include tributaries heretofore improved.)

<i>Locality</i>	<i>Expenditures</i>	<i>Appropriations</i>
Boston Harbor proper*	\$13,480,743 04	\$13,527,362 58

* Including Chelsea Creek.

CONTRACTS MADE BY THE DEPARTMENT OF PUBLIC WORKS

CON-TRACT No.	Work	Contractor	Date
269	Lagoon Pond—Oak Bluffs and Tisbury, — dredging and jetty.	Merritt-Chapman & Scott Corporation.	Aug. 23, 1932
312	Cape Cod Canal, Bourne, — construction landing pier and dredging.	Merritt-Chapman & Scott Corporation	Apr. 26, 1932
325	Hyannis Harbor, Lewis Bay, Barnstable, — timber bulkhead.	Thomas Whalen & Sons, Inc. .	June 28, 1932
330	Hyannis Harbor, Lewis Bay, Barnstable, — dredging.	Saybrook Dredging Company .	Aug. 9, 1932
332	West Chop, Tisbury, — shore protection by stone jetties.	Joseph W. Nickerson . . .	Aug. 16, 1932
335	Brant Rock, Marshfield sea wall . . .	A. Piatelli & Company. . .	Sept. 27, 1932
340	Gun Rock-Green Hill, Hull, — sea wall repairs.	Thomas Whalen & Sons, Inc.	Oct. 25, 1932
341	Warrens Cove, Plymouth, — repairs to sea wall, riprap and jetties.	A. K. Finney	May 16, 1933
342	West Harwich Beach, — stone jetty. . .	Sidney W. Lawrence	Nov. 9, 1932
343	Oak Bluffs — repairs to concrete sea wall	Merritt-Chapman & Scott Corporation	Nov. 29, 1932
344	Green Harbor, Marshfield, — riprap. .	Thomas Whalen & Sons, Inc..	Dec. 27, 1932
345	Herring River, Harwich, — filling at property of Charles E. LeBuff.	Arthur K. Finney	Feb. 7, 1933
346	Allens Harbor, Harwich, — repairing jetties.	Joseph W. Nickerson	Mar. 14, 1933
348	Pleasant Bay, Orleans shore. . . .	Joseph W. Nickerson	June 27, 1933
349	Long Beach, Rockport, — riprap. . .	Thomas Whalen & Sons, Inc..	Apr. 25, 1933
350	Boston Harbor, — removal of hulks.	Bay State Dredging & Contracting Company	Apr. 4, 1933
351	Boston Harbor, — removal of hulks..	Roy B. Rendle & Company, Inc. .	Apr. 18, 1933
352	Warren's Cove, Plymouth sea wall and jetties.	Tocci Bros.	Apr. 25, 1933
353	Boston Harbor, — removal of hulks..	The Rendle Corporation . . .	Apr. 25, 1933
354	Cape Cod Canal Pier, — retaining wall, stairs, ramp, etc.	Pasquale Construction Company, Inc.	May 2, 1933

AND IN FORCE DURING THE YEAR ENDING NOV. 30, 1933

Condition of Work	Contract Prices	Amount paid during year ending Nov. 30 1933	Total paid to Nov. 30, 1933	Estimated amount of contract
Completed Dec. 21, 1932	For dredging and disposing of dredged material on marsh and flats by hydraulic process, including the construction of necessary dikes and sluices, 35 cents for each cubic yard measured in place. For removing and disposing of all boulders \$25. for each cubic yard. For each ton of riprap or stone chips furnished and placed in completed work, \$3.23.	\$ 8,983 78	\$ 24,101 16	\$ 23,770 00
Completed Mar. 25, 1933	Unit prices	59,349 05	215,450 95	200,618 00
Completed Dec. 10, 1932	For each linear foot of creosoted timber bulkhead constructed in place, \$11.90.	2,607 10	10,699 10	10,710 00
Completed May 13, 1933	For dredging and disposing of dredged material on marsh, flats and behind the bulkhead, by the hydraulic process, or other means, including the construction of necessary dikes, sluices and spillways and incidental work, \$.1889 for each cubic yard measured in place. For removing and disposing of all boulders, \$10. per cubic yard.	23,766 08	23,766 08	21,534 60
Completed Dec. 7, 1932	For furnishing and placing heavy stone riprap and granite chips in jetties, the sum of \$4.19 for each ton of 2000 pounds.	1,297 01	4,175 48	2,095 00
Completed Jan. 2, 1933	For furnishing material and constructing concrete sea wall, including all incidental work, \$6.65 for each cubic yard of concrete measured in place in the completed work.	5,012 09	8,643 15	6,650 00
Completed Dec. 29, 1932	For each cubic yard of concrete in place in the completed work, \$8.15.	1,095 22	1,095 22	896 50
In progress	For each ton of stone riprap or chips in place in completed work, \$1.82.	2,351 44	2,351 44	8,044 00
Completed Dec. 17, 1932	For each cubic yard of concrete in place in concrete walls, jetties or footings, \$8.00.	714 43	714 43	530 40
Completed Jan. 16, 1933	For each ton of stone riprap furnished in place in the completed work \$3.12.	2,259 65	2,259 65	2,002 50
	For furnishing material and constructing concrete sea wall, including excavation, backfill and all incidental work, \$13. for each cubic yard of concrete measured in place in completed work.			
	For each ton of stone riprap furnished in place in completed work, \$3.75.			
Completed Feb. 25, 1933	For each ton of stone riprap or chips furnished in place in the completed work, including all excavation, backfilling and incidental work, the sum of \$1.88.	1,341 43	1,341 43	1,128 00
Completed April 6, 1933	For furnishing and placing sand fill, including all incidental work, the lump sum of \$572.	572 00	572 00	572 00
Completed May 17, 1933	For each ton of riprap or stone chips furnished and placed in completed work, including all incidental work, \$3.19.	11,847 13	11,847 13	9,570 00
Completed July 28, 1933	For each ton of stone riprap furnished in place in completed work, including all excavation, back filling and incidental work, \$2.98.	1,747 41	1,747 41	1,490 00
Completed June 2, 1933	For each ton of riprap or stone chips furnished and placed in completed work, the sum of \$1.43.	3,134 74	3,134 74	2,860 00
Completed Apr. 17, 1933	For removal and disposal of hulks from Boston Harbor, Mystic River and Winthrop Harbor, as specified, the lump sum of \$2700.	2,700 00	2,700 00	2,700 00
Completed June 19, 1933	For removal and disposal of hulks as specified from property of Boston Port Development Co., Condor St., East Boston, the lump sum of \$3800.	4,400 00	4,400 00	4,400 00
	For pulling and disposing of piles as specified on property of Boston Port Development Co., Condor St., East Boston, the lump sum of \$600.			
Completed June 3, 1933	For furnishing material and constructing concrete sea wall, including all excavation, backfilling, removing old walls and all incidental work, the sum of \$8.50 for each cubic yard of concrete measured in the completed work.	5,170 94	5,170 94	4,675 00
	For furnishing materials and constructing five concrete jetties, including all excavation, back filling and all incidental work, the sum of \$8.50 for each cubic yard of concrete measured in the completed jetties.			
Completed July 12, 1933	For removal and disposal of hulks specified from Chelsea Creek, the lump sum of \$1800.	2,200 00	2,200 00	2,200 00
Completed June 29, 1933	Unit prices	1,737 75	1,737 75	1,663 25

CONTRACTS MADE BY THE DEPARTMENT OF PUBLIC WORKS

CON-TRACT No.	Work	Contractor	Date
355	Witchmere Harbor, — Harwich — dredging	Saybrook Dredging Company.	Apr. 25, 1933
356	Brant Rock, Marshfield, — concrete sea wall.	Corsetti and Arcese Co..	June 6, 1933
357	Dolphin A on Bird Island Anchorage Basin	M. & R. Construction Company	June 13, 1933
358	Commonwealth Pier 5 — repairs to pile platform.	A. A. Hersey & Son Co.	June 6, 1933
359	New Bedford State Pier, — dredging docks and approaches.	J. S. Packard Dredging Company	July 5, 1933
360	Cape Cod Canal Pier, — moveable gangways.	Waghorne-Brown Company	June 6, 1933
361	Winthrop Breakwater.	Merritt-Chapman & Scott Corporation	June 27, 1933
362	Cape Cod Canal Pier, — building	Durso Construction Company	June 6, 1933
363	Wollaston Dredging.	Bay State Dredging & Contracting Company	June 6, 1933
364	Commonwealth Pier 5, — dredging east berth.	Bay State Dredging & Contracting Company	Sept. 26, 1933
365	Cuttyhunk Harbor, — Gosnold.	The Saybrook Dredging Company.	June 27, 1933
366	Cape Cod Canal Pier, — electric lighting	Mass. Electric Construction Co.	July 25, 1933
367	Chelsea Creek, East Boston, — removal of hulks.	John Forward	Aug. 1, 1933
368	Dennis, — stone jetty at Dennisport.	Sidney W. Lawrence	Aug. 15, 1933
369	Shore Acres, Scituate, — riprap protection.	Henry N. Worthington	Sept. 5, 1933
370	Glades Sea Wall, — Scituate.	Thomas Whalen & Sons, Inc.	Oct. 4, 1933

<i>Location and Character of Work</i>	Contributions by Municipality or Others	Total Expenditure
Rock Harbor, Orleans, dredging	2,400 00	20,832 51
Rockport Harbor, Rockport, dredging and removing rocks	4,750 00	32,897 46
Sagamore Beach, Bourne	—	78 85
Salem Harbor, Salem, survey	—	1,509 92
Salisbury Beach, survey	—	4,754 27
Salt Pond River, Eastham, survey	—	210 11
Salters Point, Dartmouth, breakwater	4,500 00	42,939 57
Sand Hills Scituate — See Scituate.		
Sandwich Harbor, Sandwich, dredging channel, riprap and jetties	—	80,579 84
Saugus River, Lynn and Saugus, survey and dredging	2,000 00	20,845 17
Scituate, shore protection	75,000 00	
Beach Street, Scituate, wall and break- water	17,333 52	34,782 50
Cedar Point, Scituate, wall and break- water	21,446 64	41,298 70
First and Second Cliffs, Scituate, wall and riprap	2,797 92	19,553 12
Glades, North Scituate, filling and rip- rap	13,250 78	38,751 42
Humarock Beach, Scituate, survey, wall and jetties	37,816 38	83,583 74
North Scituate, Surfside, sea wall, jet- ties and riprap	2,194 68	33,144 84
Sand Hills, Scituate, wall and jetties	4,511 26	34,031 13
Third Cliff, Scituate, riprap and survey	75,193 10	134,770 21
General surveys at Scituate	—	543 73
Shore Acres, Scituate, riprap	—	12,913 13
Sand Hills to Shore Acres, Scituate, sea wall, jetties and riprap	—	17,626 47
Scituate Harbor, dredging and surveys	53,300 00	206,011 94
Scorton Harbor, Sandwich, jetty and dredg- ing	500 00	17,774 34
Seapuit River, Barnstable, dredging	13,000 00	25,088 55
Sengekontacket Pond, Oak Bluffs, survey	—	104 28
Sesuit Harbor, Dennis, jetty	1,500 00	24,555 10
Shirley Gut, survey	—	201 06
Singing Beach, Manchester, survey	—	81 80
Sippican Harbor, Marion, survey	—	615 66
Smiths Cove, Gloucester, survey and dredging	3,875 00	13,466 16
South Harwich, stone jetties and riprap	2,500 00	3,701 31
South River, Marshfield and Scituate, sur- vey	—	724 85
South River, Salem, dredging	3,000 00	13,462 66
South Watuppa Pond, Fall River, fenders and excavation	—	203 42
Stage Harbor, Chatham, dikes and survey	—	11,792 15
Steam Gauging — See Conservation of Waters		
Swampscott, survey	—	103 46
Taunton-Brockton, waterway investigation	—	5,278 18
Taunton River, survey and dredging	42,500 00	31,561 95

<i>Location and Character of Work</i>	Contributions by Municipality or Others	Total Expenditure
Taunton River-Boston Harbor Canal, survey	—	9,932 75
Taunton River-Massachusetts Bay Canal, survey	—	11,786 71
Truro Beach, survey	—	71 74
Vineyard Haven Harbor, Tisbury, breakwater and dredging	1,000 00	45,518 25
Vineyard Haven Harbor, repairing sea wall	2,380 50	11,945 01
Waquoit Bay, Falmouth, breakwater, wall, bulkhead and dredging	17,500 00	98,438 91
Wareham River, Wareham, survey and dredging	5,000 00	42,567 93
Warrens Cove, Plymouth, sea wall and survey	15,213 98	34,241 86
Watch Hill, Chatham, survey and riprap	—	14,968 75
Water Conservation — See Conservation of Water		
Wellfleet Harbor, Wellfleet, survey and dredging	1,500 00	17,600 29
West Bay, Barnstable and Osterville, dredging, jetties and riprap	16,128 07	114,607 52
West Chop, Tisbury, stone jetties	2,500 00	5,116 07
West Dennis Beach, stone jetty	750 00	55 85
West Falmouth Harbor, Falmouth, surveys, dredging and breakwater	11,473 75	63,520 95
West Harwich Beach, Harwich, shore protection	6,000 00	26,717 00
Western Avenue sea wall, Gloucester — see under Gloucester		
Westfield River, Westfield, survey and jetties	—	6,037 29
Westport Harbor, Westport, jetty extension and repairs	—	21,928 88
Wild Harbor, Falmouth — jetty and dredging	15,000 00	55,128 66
Winthrop Shore, Winthrop, sea walls and protective work	65,500 00	208,861 53
Witchmere Harbor, Harwich, jetties and dredging	6,000 00	69,942 75
Woods Hole, Great Harbor, Falmouth, dredging	1,500 00	6,968 86
Wrecks, removal from tide water	—	20,283 69
Yarmouthport Harbor, survey	7,000 00	95,977 37
	<hr/>	<hr/>
	\$1,644,194 63	\$8,396,959 26

FEDERAL APPROPRIATIONS AND EXPENDITURES

Federal appropriations and expenditures for improvement of rivers and harbors in Massachusetts from the establishment of the government to the close of the fiscal year ending June 30, 1933, are shown in the following tables furnished by the Chief of Engineers, U. S. Army:—

TABLE NO. 1. — *Localities at Present Under Improvement*

(Compiled from the Annual report of the Chief of Engineers, U. S. Army, for the fiscal year ending June 30, 1933)

<i>Locality</i>	<i>Expenditures</i>	<i>Appropriations</i>
Newburyport Harbor	\$506,298 13	\$506,748 13
Gloucester Harbor	545,575 63	545,575 63
Lynn Harbor	782,017 25	790,775 89
Boston Harbor	13,594,731 57	13,765,265 10
Plymouth Harbor	421,184 80	421,184 80***
Cape Cod Canal	12,466,263 56	12,851,195 56
Operating and Care, Cape Cod Canal	1,286,217 78	1,300,755 28
Pollock Rip Shoals	1,367,037 25	1,318,074 66
Cross Rip Shoals, Nantucket Sound .	34,822 14	41,967 20
New Bedford and Fairhaven Harbor .	1,327,418 91	1,337,848 53
Fall River Harbor	778,626 35	819,282 69
Taunton River	323,484 50	429,775 86
Total	\$33,433,677 87	\$34,128,449 33

***Exclusive of \$108,400 contributed funds.

TABLE NO. 2. — *Localities in Which Work is Not Now in Progress*

(Compiled from data furnished by the United States Treasury Department and the Chief of Engineers, U. S. Army)

<i>Locality</i>	<i>Expenditures</i>	<i>Appropriations</i>
Merrimack River	\$404,466 72	\$404,466 72
Malden River	149,950 00	149,950 00****
Sandy Bay, Cape Ann, Harbor of Refuge	1,941,478 00	1,941,478 00
Bass River	20,150 34	20,150 41
Buzzards Bay Harbor	2,500 00	2,500 00
Canapitset Channel	5,312 54	9,800 00
Chatham Harbor	12,171 36	13,732 79
Cohasset Harbor	10,000 00	10,000 00
Duxbury Harbor	37,000 00	37,000 00
East Dennis Breakwater	7 57	1,500 00
Edgartown Harbor	25,000 00	25,000 00
Essex River	30,000 00	30,000 00
Hingham Harbor	38,316 58	38,316 58
Hyannis Harbor	221,267 07	221,267 07
Ipswich River	5,617 91	5,617 91
Kingston Harbor	8,940 09	10,000 00
Little Harbor, Woods Hole	18,000 00	18,000 00
Manchester Harbor	23,985 57	23,985 57
Marblehead Harbor	833 42	1,900 00
Martha's Vineyard (Edgartown Harbor)	30,000 00	30,000 00
Powow River	50,940 72	51,000 00
Rockport Harbor	91,229 25	91,229 25
Town River	37,577 41	37,557 41
Vineyard Haven Harbor	55,387 35	55,387 35
Wareham Harbor	95,997 30	96,236 00
Wellfleet Harbor	11,365 57	16,000 00
Westport Harbor and River	3,000 00	3,000 00
Winthrop Harbor	9,000 00	9,000 00
Woods Hole Channel	343,599 92	344,000 00

****Exclusive of \$ 62,000 contributed funds.

<i>Locality</i>	<i>Expenditures</i>	<i>Appropriations</i>
Beverly Harbor	246,690 41	246,690 41*
Salem Harbor	107,956 57	107,956 57
Mystic River	306,684 84	306,684 84
Dorchester Bay and Neponset River	128,176 44	128,176 44
Weymouth Fore River	641,150 00	641,150 00**
Weymouth Back River	27,000 00	27,000 00
Scituate Harbor	126,590 98	126,590 98
Provincetown Harbor	348,062 72	348,062 72
Harbor of Refuge at Nantucket	694,582 83	694,582 83
Total	\$6,309,989 48	\$6,324,989 85

*Exclusive of \$100,000 contributed funds

**Exclusive of \$100,000 contributed funds

RECAPITULATION

	<i>Expenditures</i>	<i>Appropriations</i>
Total of Table No. 1	\$33,433,677 87	\$34,128,449 33
Total of Table No. 2	6,309,989 48	6,324,989 85
	\$39,743,667 35	\$40,453,439 18

EXPENDITURES ON BOSTON HARBOR AND ITS TRIBUTARIES TO JUNE 30, 1933

(The tributaries given are those now under improvement and do not include tributaries heretofore improved.)

<i>Locality</i>	<i>Expenditures</i>	<i>Appropriations</i>
Boston Harbor proper*	\$13,480,743 04	\$13,527,362 58

* Including Chelsea Creek.

CONTRACTS MADE BY THE DEPARTMENT OF PUBLIC WORKS

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325	Hyannis Harbor, Lewis Bay, Barnstable, — timber bulkhead.	Thomas Whalen & Sons, Inc. .	June 28, 1932
330	Hyannis Harbor, Lewis Bay, Barnstable, — dredging.	Saybrook Dredging Company .	Aug. 9, 1932
332	West Chop, Tisbury, — shore protection by stone jetties.	Joseph W. Nickerson . . .	Aug. 16, 1932
335	Brant Rock, Marshfield sea wall . . .	A. Piatelli & Company. . .	Sept. 27, 1932
340	Gun Rock-Green Hill, Hull, — sea wall repairs.	Thomas Whalen & Sons, Inc.	Oct. 25, 1932
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350	Boston Harbor, — removal of hulks. .	Bay State Dredging & Contracting Company	Apr. 4, 1933
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AND IN FORCE DURING THE YEAR ENDING NOV. 30, 1933

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Completed Mar. 25, 1933	Unit prices	59,349 05	215,450 95	200,618 00
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Completed Dec. 29, 1932	For each cubic yard of concrete in place in the completed work, \$8.15.	1,095 22	1,095 22	896 50
In progress	For each ton of stone riprap or chips in place in completed work, \$1.82. For each cubic yard of concrete in place in concrete walls, jetties or footings, \$8.00.	2,351 44	2,351 44	8,044 00
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Completed July 12, 1933	For removal and disposal of hulks specified from Chelsea Creek, the lump sum of \$1800.	2,200 00	2,200 00	2,200 00
Completed June 29, 1933	Unit prices	1,737 75	1,737 75	1,663 25

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AND IN FORCE DURING THE YEAR ENDING NOV. 30, 1933

Condition of Work	Contract Prices	Amount paid during year ending Nov. 30 1933	Total paid to Nov. 30, 1933	Estimated amount of contract
Completed June 29, 1933	For dredging and disposing of excavated material on marsh and flats by the hydraulic process, including the construction of necessary dikes and sluices, 56 cents for each cubic yard measured in place.	5,888 79	5,888 79	4,888 80
Completed Aug. 30, 1933	For furnishing material and constructing concrete sea wall, \$7.32 per cubic yard of concrete measured in completed work.	6,523 10	6,523 10	5,916 72
	For furnishing material and constructing reinforced concrete footing, \$8. per cubic yard of reinforced concrete measured in completed work.			
	For furnishing material and constructing concrete cap, backing and steel dowels, \$8.60 for each cubic yard of reinforced concrete in the completed work.			
	For each cubic yard of filling material furnished, delivered and measured in place in the completed work, \$.40 per cubic yard.	6,523 10	6,523 10	5,916 72
Completed July 26, 1933	For furnishing dolphin complete, including all incidental work, \$175.	175 00	175 00	175 00
In progress	Unit prices	3,034 40	3,034 40	2,195 00
Completed Oct. 2, 1933	For dredging and disposing of dredged material 48 cents per cubic yard, scow measurement.	6,999 96	6,999 96	9,620 00
	For removing and disposing of boulders \$20. per cubic yard.			
Completed Aug. 31, 1933	For furnishing and erecting in place at Cape Cod Canal Pier two gangways complete and ready to operate, including all incidental work, the lump sum of \$2645.	2,820 00	2,820 00	2,645 00
Completed Nov. 30, 1933	For each ton of stone riprap furnished in place in the completed work, including all incidental work, \$2.22.	109,446 00	109,446 00	111,000 00
In progress	For the construction of building complete, including foundations, floors, outside platforms, plumbing, drains, cistern with allowances as specified, and all incidental work, the lump sum of \$21,378.	18,536 99	18,536 99	21,378 00
	For the substitution of 4-inch tile backing in side walls in place of 8-inch tile, as specified deduct \$378.			
	For omission of all plumbing fixtures, water pump and tank and all plumbing above floor level, deduct \$700.			
	For omission of floor specified in main shed, deduct \$1,000.			
Completed July 11, 1933	For dredging channel and basin and disposing of dredged material, 38 cents per cubic yard, scow measurement.	11,893 62	11,893 62	11,790 00
	For removing and disposing of all boulders \$10. for each cubic yard.			
In progress	For dredging and disposing of dredged material, 43 cents per cubic yard, scow measurement.	3,483 95	3,483 95	13,780 00
	For removing and disposing of boulders, \$20. per cubic yard.			
Completed Sept. 9, 1933	For dredging and disposing of excavated material on shore by hydraulic process, including construction of all necessary dikes and sluices, 28.8 cents for each cubic yard measured in situ.	9,160 70	9,160 70	9,000 00
	For removing and disposing of all boulders, \$10. for each cubic yard.			
Completed Oct. 24, 1933	For furnishing and installing complete, electric service as specified, \$1239.	1,098 30	1,098 30	1,239 00
In progress	For removal and disposal of steel hulk "Yankton", \$500.	2,465 00	2,465 00	3,400 00
	For removal and disposal of all hulks, wrecks, etc., as specified except steel hulk "Yankton", \$2900.			
Completed Oct. 14, 1933	For furnishing and placing stone riprap and granite chips in the jetty, \$3.12 for each ton of 2000 pounds.	856 60	856 60	936 00
Completed Nov. 11, 1933	For each ton of heavy stone riprap and chips furnished in place in the completed work, \$1.38.	3,838 40	3,838 40	6,900 00
Completed Nov. 24, 1933	For furnishing material and constructing reinforced cap and face of wall, \$10. for each cubic yard of concrete measured in completed work.	7,500 89	7,500 89	6,900 00
	For furnishing stone riprap and depositing it in place along concrete wall, \$1.65 per ton furnished and in place in completed work.			
	For removing and disposing of about 128 feet of old concrete wall, the lump sum of \$150.			

CONTRACTS MADE BY THE DEPARTMENT OF PUBLIC WORKS

CON-TRACT No.	Work	Contractor	Date
371	Commonwealth Pier 5, — Boston, — removal of wall and erection of fence on observation platform.	Waghorne-Brown Co. . . .	Sept. 13, 1933
372	Commonwealth Pier 5, — Boston, — alterations to moveable gangway.	Waghorne-Brown Co. . . .	Sept. 13, 1933
373	Falmouth Inner Harbor, — dredging.	Bay State Dredging & Contracting Co.	Sept. 5, 1933
374	Oak Bluffs, — concrete footing under sea wall north of steamboat wharf.	Pasquale Construction Company, Inc.	Sept. 5, 1933
375	Boston Harbor, — removal of hulks	M. & R. Construction Company	Aug. 29, 1933
376	Shore Acres, Scituate, — sea wall of concrete, jetties and riprap.	Thomas H. Hannaford . . .	Sept. 12, 1933
377	Third Cliff, Scituate, — stone riprap.	Raymond A. Bergesson . . .	Sept. 5, 1933
378	Scituate, Shore Acres, — concrete sea wall and stone riprap.	A. K. Finney	Sept. 5, 1933
379	Lake Anthony, Oak Bluffs, stone riprap.	Joseph W. Nickerson	Sept. 19, 1933
380	Nobscussett Harbor, Dennis, — stone jetties westerly of harbor.	Sidney W. Lawrence	Sept. 19, 1933
381	Pleasant Park Channel, Winthrop, — dredging.	Bay State Dredging & Contracting Co.	Nov. 28, 1933
382	Boston Harbor, — dredging adjacent to Pier 1 of N.Y., N.H.&H.R.R. Co. . . .	Bay State Dredging & Contracting Co.	Sept. 26, 1933
383	Nahant Shore, Nahant, — riprap protection	M. McDonough Co.	Oct. 10, 1933
384	Commonwealth Pier 5, — painting exterior steel work.	Louis P. Steensen	Sept. 20, 1933
385	Mystic River, — dredging above Malden Bridge.	Bay State Dredging & Contracting Co.	Oct. 10, 1933
386	West Dennis Beach, — stone jetty. . . .	Sidney W. Lawrence	Nov. 28, 1933
387	Commonwealth Pier 5, — installation of steel sash, replacement of glass, and repairs to sash.	Maurice M. Devine	Nov. 23, 1933
390	East Boston Pier 1, — steel sliding cargo doors.	Waghorne-Brown Company . .	Nov. 28, 1933
392	Commonwealth Pier 1, — East Boston, — repairs to platforms and shed.	Murray Engineering Company .	Nov. 28, 1933
393	New Bedford State Pier, — repairs to plaster walls and doorways and new windows and doors.	National Gunite Contracting Co.	Nov. 28, 1933

AND IN FORCE DURING THE YEAR ENDING NOV. 30, 1933

Condition of Work	Contract Prices	Amount paid during year ending Nov. 30 1933	Total paid to Nov. 30, 1933	Estimated amount of contract
Completed Nov. 10, 1933	Lump sum of \$322.	273.70	273 70	322 00
Completed Nov. 10, 1933	Lump sum of \$1044.	887 40	887 40	1044 00
Completed Oct. 4, 1933	For dredging entrance channel and disposing of dredged material 47 cents per cubic yard, scow measurement.	3,611 48	3,611 48	3,592 00
	For removing and disposing of boulders \$20. per cubic yard.			
Completed Oct. 11, 1933	For furnishing material and constructing concrete footing \$23. for each cubic yard of concrete measured in place in the completed work.	1,139 18	1,139 18	690 00
In progress	Lump sum of \$1495.	1,016 60	1,016 60	1,495 00
In progress	For furnishing material and constructing concrete sea wall and jetties, \$7.79 for each cubic yard of concrete measured in completed work.	16,633 35	16,633 35	31,940 40
	For furnishing and placing heavy stone riprap for apron \$2.243 for each ton in completed work.			
In progress	For each ton of riprap or stone chips furnished and placed in the completed work, \$1.90.	6,460 00	6 460 00	6,650 00
In progress	For furnishing material and constructing the concrete sea wall, including all excavation, backfilling forms and removing old bulkhead, including all incidental work the sum of \$7.82 for each cubic yard of concrete measured in the completed work.	8,069 46	8,069 46	14,936 80
	For furnishing and placing heavy stone riprap for apron including excavation, backfilling, chinking including all incidental work, the sum of \$1.92 for each ton of heavy stone riprap in the completed work.			
Completed Oct. 24, 1933	For each ton of stone riprap furnished in place in completed work, \$2.98.	773 35	773 35	894 00
In progress	For each ton of stone riprap furnished in place in completed work, \$3.10.			2,170 00
In progress	For dredging and disposing of dredged material 38 cents per cubic yard, scow measurement.			9,900 00
	For removing and disposing of boulders, \$20. per cubic yard.			
In progress	For dredging and disposing of dredged material 37 cents per cubic yard, scow measurement.	21,462 42	21,462 42	18,520 00
	For removing and disposing of boulders \$20. per cubic yard.			
In progress	For each ton of stone riprap furnished in place in the completed work, \$1.18.	1,995 97	1,995 97	16,520 00
In progress	For furnishing all labor, paint, materials and equipment and doing all cleaning and painting, the lump sum of \$1720.			1,720 00
In progress	For dredging area and disposing of dredged material, 41 cents per cubic yard, scow measurement.			9,860 00
	For removing and disposing of boulders \$20. per cubic yard.			
In progress	For furnishing and placing stone riprap and granite chips in the jetty \$3.10 per ton.			1,193 50
In progress	Unit prices			9,181 25
Not yet begun	For each steel sliding door furnished and erected, including all incidental work, \$143.37.			2,293 92
Not yet begun	Unit prices			1,440 00
Not yet begun	For removing existing plaster wall on north side of pier and replacing with gunite, the lump sum of \$1460.			2,625 00
	For placing new gunite surface on exposed face of elevator shaft, and on inner and outer corners of steel shed, the lump sum of \$615.			
	For furnishing and erecting two steel sash, the lump sum of \$50.			
	For furnishing and erecting 3 doors, complete and ready to operate, the sum of \$500.			

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Completed Aug. 30, 1933	For furnishing material and constructing concrete sea wall, \$7.32 per cubic yard of concrete measured in completed work.	6,523 10	6,523 10	5,916 72
	For furnishing material and constructing reinforced concrete footing, \$8. per cubic yard of reinforced concrete measured in completed work.			
	For furnishing material and constructing concrete cap, backing and steel dowels, \$8.60 for each cubic yard of reinforced concrete in the completed work.			
	For each cubic yard of filling material furnished, delivered and measured in place in the completed work, \$.40 per cubic yard.	6,523 10	6,523 10	5,916 72
Completed July 26, 1933	For furnishing dolphin complete, including all incidental work, \$175.	175 00	175 00	175 00
In progress	Unit prices	3,034 40	3,034 40	2,195 00
Completed Oct. 2, 1933	For dredging and disposing of dredged material 48 cents per cubic yard, scow measurement.	6,999 96	6,999 96	9,620 00
	For removing and disposing of boulders \$20. per cubic yard.			
Completed Aug. 31, 1933	For furnishing and erecting in place at Cape Cod Canal Pier two gangways complete and ready to operate, including all incidental work, the lump sum of \$2645.	2,820 00	2,820 00	2,645 00
Completed Nov. 30, 1933	For each ton of stone riprap furnished in place in the completed work, including all incidental work, \$2.22.	109,446 00	109,446 00	111,000 00
In progress	For the construction of building complete, including foundations, floors, outside platforms, plumbing, drains, cistern with allowances as specified, and all incidental work, the lump sum of \$21,378.	18,536 99	18,536 99	21,378 00
	For the substitution of 4-inch tile backing in side walls in place of 8-inch tile, as specified deduct \$378.			
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	For omission of floor specified in main shed, deduct \$1,000.			
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	For removing and disposing of all boulders \$10. for each cubic yard.			
In progress	For dredging and disposing of dredged material, 43 cents per cubic yard, scow measurement.	3,483 95	3,483 95	13,780 00
	For removing and disposing of boulders, \$20. per cubic yard.			
Completed Sept. 9, 1933	For dredging and disposing of excavated material on shore by hydraulic process, including construction of all necessary dikes and sluices, 28.8 cents for each cubic yard measured in situ.	9,160 70	9,160 70	9,000 00
	For removing and disposing of all boulders, \$10. for each cubic yard.			
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In progress	For removal and disposal of steel hulk "Yankton", \$500.	2,465 00	2,465 00	3,400 00
	For removal and disposal of all hulks, wrecks, etc., as specified except steel hulk "Yankton", \$2900.			
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Completed Nov. 24, 1933	For furnishing material and constructing reinforced cap and face of wall, \$10. for each cubic yard of concrete measured in completed work.	7,500 89	7,500 89	6,900 00
	For furnishing stone riprap and depositing it in place along concrete wall, \$1.65 per ton furnished and in place in completed work.			
	For removing and disposing of about 128 feet of old concrete wall, the lump sum of \$150.			

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374	Oak Bluffs, — concrete footing under sea wall north of steamboat wharf.	Pasquale Construction Company, Inc.	Sept. 5, 1933
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387	Commonwealth Pier 5, — installation of steel sash, replacement of glass, and repairs to sash.	Maurice M. Devine . . .	Nov. 23, 1933
390	East Boston Pier 1, — steel sliding cargo doors.	Waghorne-Brown Company . .	Nov. 28, 1933
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In progress	For each ton of riprap or stone chips furnished and placed in the completed work, \$1.90.	6,460 00	6 460 00	6,650 00
In progress	For furnishing material and constructing the concrete sea wall, including all excavation, backfilling forms and removing old bulkhead, including all incidental work the sum of \$7.82 for each cubic yard of concrete measured in the completed work.	8,069 46	8,069 46	14,936 80
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In progress	For each ton of stone riprap furnished in place in completed work, \$3.10.			2,170 00
In progress	For dredging and disposing of dredged material 38 cents per cubic yard, scow measurement.			9,900 00
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In progress	For each ton of stone riprap furnished in place in the completed work, \$1.18.	1,995 97	1,995 97	16,520 00
In progress	For furnishing all labor, paint, materials and equipment and doing all cleaning and painting, the lump sum of \$1720.			1,720 00
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	For removing and disposing of boulders \$20. per cubic yard.			
In progress	For furnishing and placing stone riprap and granite chips in the jetty \$3.10 per ton.			1,193 50
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The Commonwealth of Massachusetts

ANNUAL REPORT

OF THE

Department of Public Works

For the Year Ending November 30, 1934



The Commonwealth of Massachusetts

FIFTEENTH ANNUAL REPORT

OF THE

DEPARTMENT OF PUBLIC WORKS

YEAR ENDING NOVEMBER 30, 1934

*To the Honorable Senate and House of Representatives of the
Commonwealth of Massachusetts*

In accordance with the provisions of law, I have the honor, as Commissioner of Public Works, to submit the fifteenth annual report of the Department of Public Works for the year ending November 30, 1934.

The organization of the Department as defined in Chapter 16, General Laws, as amended by chapter 297, Acts of 1927, was as follows:

Commissioner of Public Works, FRANK E. LYMAN.

Associate Commissioner, RICHARD K. HALE.

Associate Commissioner, HERMAN A. MACDONALD, to January 24, 1934.

Associate Commissioner, WILLIAM F. CALLAHAN, from February 6, 1934.

Office Building. The new office building to accommodate the various offices of the Department, now houses the main and Engineering offices of the Department and the Registry of Motor Vehicles occupying in total the equivalent of seven floors and basement. In accordance with the Act, Chapter 122, Acts of 1931, authorizing the construction of this building, the space not immediately required by the Department has been assigned to other State Departments by the State Superintendent of Buildings, with the approval of the Governor and Council. The other departments now located in the building include the following: the Massachusetts Nautical School; the Public Employment Service of the Department of Labor and Industries; the Teachers' Retirement Board of the Department of Education; the Division of Insurance, of the Department of Banking and Insurance; the Department of Public Utilities and the Division of Smoke Abatement of the same department; and the Division of Adult Hygiene of the Department of Public Health.

Summary of Highways Constructed. The mileage of new State highways laid out during the year amounted to 29.53 miles, but there were abandoned or discontinued 1.33 miles of State highways, so that the net mileage of State highways amounted to 1,852.26 miles at the end of the fiscal year, November 30, 1934.

The Department has constructed, reconstructed and widened 85.041 miles of State highways and built 156.648 miles of roads in cooperation with cities, towns and counties under the provisions of chapter 90, General Laws, and, in addition has constructed 62.902 miles of highways under the provisions of Special Acts. Under the provisions of section 26, chapter 81, General Laws, the Department has had charge of the repair and maintenance of 8,830 miles of public ways, exclusive of State highways in 178 towns.

A number of outstanding projects were begun during the year as follows: At Newburyport, on the Newburyport Turnpike route, the construction of a State highway on new location and rigid frame bridges of concrete and steel under High and Washington Streets to provide for through traffic, the pavement consisting of three lanes of reinforced cement concrete on each side of a center reservation; the construction of about 15 miles of the new Concord Turnpike, a State highway, in the towns of Arlington, Belmont, Lexington, Lincoln and Concord, largely on new location, with a pavement of concrete providing for four lanes of traffic with bituminous shoulders; in Lowell and Tyngsborough the reconstruction of about 4 miles of State highway along the Pawtucket Boulevard; in Easton, Raynham and Taunton the reconstruction of more than 9 miles of State highway; construction begun on the new Fore River Bridge over the Weymouth Fore River in the City of Quincy and the Town of Weymouth, the total length of the bridge being 1,324 feet and the retaining wall approaches being 1,068 feet, providing for a reinforced concrete roadway 60 feet wide and a draw, with a 219-foot span, steel, two leaf rolling lift draw, with a clear river channel 175 feet in width; construction

begun on the new General Clarence R. Edwards bridge over Saugus River in the Cities of Lynn and Revere, providing for a roadway 60 feet wide and with a draw opening to give a clear channel width of 100 feet; the construction begun on the reconstruction of nearly 10 miles of the Mohawk Trail State highway in the Town of Charlemont; and the construction of the North Shore Road in Revere.

The engineering and clerical staff of the Department was as follows:

Chief Engineer, ARTHUR W. DEAN.

Highway Engineer (Projects), FRANKLIN C. PILLSBURY.

Highway Engineer (Construction), RAYMOND W. COBURN.

Highway Engineer (Maintenance), GEORGE H. DELANO.

Bridge Engineer, GEORGE E. HARKNESS.

District Highway Engineers:—

District No. 1, GEORGE A. CURTIS—Berkshire County and the Towns of Worthington, Middlefield and Huntington in Hampshire County, and the Towns of Chester, Montgomery, Russell, Blandford and Tolland in Hampden County.

District No. 2, H. D. PHILLIPS—Franklin, Hampshire and Hampden Counties, with the following exceptions: three towns in Hampshire County included in District No. 1 and ten towns in Hampden County included in Districts Nos. 1 and 3.

District No. 3, JOHN A. JOHNSTON—Worcester County and the Towns of Brimfield, Holland, Monson, Palmer and Wales in Hampden County.

District No. 4, F. D. SABIN—Middlesex County.

District No. 5, JAMES E. LAWRENCE—Essex and Suffolk counties.

District No. 6, H. O. PARKER, Norfolk and Bristol Counties.

District No. 7, H. C. HOLDEN—Plymouth, Barnstable, Dukes and Nantucket Counties.

District Waterways Engineer, for Boston Harbor—JOHN N. FERGUSON.

District Waterways Engineer, for harbors and waterways outside Boston Harbor—FRANCIS L. SELLEW.

Secretary, MARY A. RILEY.

Financial Secretary, FRED FAIR.

Registry of Motor Vehicles

Registrar, MORGAN T. RYAN.

Deputy Registrar, ANTHONY A. BONZAGNI.

Assistant to the Registrar of Motor Vehicles, ALFRED W. DEVINE.

Chief Administrative Clerk, CHARLES R. GILLEY.

Chief Inspector of Motor Vehicles, ALBERT S. OLSSON.

A detailed report of the activities of the Department for the year is presented herewith.

FRANK E. LYMAN,
Commissioner of Public Works.

December 1, 1934.

SPECIAL REPORTS TO THE LEGISLATURE

The Department was authorized and directed by the Legislature to make certain investigations, and the reports thereon were made as follows:—

Costs and routes of proposed State Highways in or near the City of Fitchburg. Report made December 5, 1933, by the Department of Public Works, under Chapter 14, Resolves of 1933. (Senate 2 of 1934.)

The construction of a highway in the City of Quincy and the Town of Milton. Report made December 5, 1933, by the Department of Public Works, under Chapter 16, Resolves of 1933. (House 164 of 1934.)

Traffic conditions on or near the Newburyport Turnpike, so-called, and as to the abolition of the railroad grade crossing at State Street in the Town of Newbury. Report made December 4, 1933, by the Department of Public Works under Chapter 21 of the Resolves of 1933. (Senate 3 of 1934.)

Certain proposed traffic routes in the Metropolitan District. Report made by the Department of Public Works under Chapter 24, of the Resolves of 1933. (House 165 of 1934.)

The construction of a new State Highway in the Towns of Hopkinton, Upton, Northbridge, Sutton, Douglas and Webster. Report made December 4, 1933, by the Department of Public Works, under Chapter 31 of the Resolves of 1933. (House 163 of 1934.)

Reconstructing a bridge over Mystic River between the Cities of Boston and Chelsea. Report made December 1, 1933, by Special Commission established by Chapter 36 of 1933—Commissioner and Associate Commissioners of the Department of Public Works, the City Engineer of the City of Chelsea and the City Engineer of the City of Revere. (House 176 of 1934.)

Licensing contractors and builders and relative to certain matters relating to contracts for and the employment of persons on public works. Report made by a special Commission, including the Commissioner of Public Works, in accordance with Chapter 33 of the Resolves of 1933. (House 1250 of 1934.)

Taxation by the Town of Russell of the dam and other structures of the Cobble Mountain Development. Report made December 6, 1933, under the provisions of Chapter 11 of the Resolves of 1933, by a Special Commission including the Chief Engineer of the Department of Public Works. (Senate 35 of 1934.)

RECOMMENDATIONS FOR LEGISLATION

The Commissioner of Public Works presented to the State Secretary on December 5, 1934, as required by law, that part of the current annual report which contains recommendations or suggestions for legislative action as follows:—

1. At the present time the Department of Public Works has limited authority only, in regard to the regulation of speed of vehicles on highways. For some time it has been felt that no adequate or satisfactory solution of the problem of speed control has been discovered. The Department asks authority to experiment on various rules and devices on certain highways to determine whether or not a satisfactory solution of the speed problem can be reached by carrying out at the same time both scientific studies and practical tests of various ideas. It also requests authority for a limited period to establish from time to time such rules and regulations as may be necessary to carry out these plans.

2. Legislation to require automobiles to be equipped with a device to limit the speed thereof is recommended.

3. Legislation is desirable in order to clarify the intent of the law relative to detail of description of numbers on number plates.

4. An amendment is desired to clarify the law relative to the non-criminal disposition of charges for violation of motor vehicle parking rules, regulations, orders, ordinances and by-laws.

5. A further amendment is recommended providing for a penalty for making false statements in applications for the registration of motor vehicle trailers.

6. A resolve relative to sundry accounts of the Registry of Motor Vehicles is desired.

APPROPRIATIONS

Chapter 162, Acts of 1934, making appropriations for the maintenance of departments, boards, commissions, institutions and certain activities of the Commonwealth, etc., is, in part, as follows:—

Item

Requirements for Extinguishing the State Debt

217. For sinking fund requirements and for certain serial bonds maturing during the present year, the sum of one million six hundred thirty-nine thousand four hundred twenty-five dollars and eighty-three cents, payable from the following accounts and funds in the following amounts:—
from the Highway Fund, two hundred three thousand three hundred forty-two dollars and fifty cents; and
the remainder from the General Fund. . . . \$1,639,425 83
- 217a. To meet one fourth of the expenditures authorized by sections one and two of chapter one hundred and twenty-two of the acts of nineteen hundred and thirty-one, and already

Item

in the main incurred, which is the proportionate part intended to be ultimately met by the commonwealth during the current fiscal year, thereby reducing by the sum hereby appropriated the amount that may be borrowed under section three of said chapter, without otherwise affecting the authority to borrow under said section three the remainder of the amount authorized to be borrowed thereunder, the sum of two million one hundred and twenty-five thousand dollars, the same to be paid from the Highway Fund . . . \$2,125,000 00

Interest on the Public Debt

218. For the payment of interest on the direct debt of the commonwealth, a sum not exceeding eight hundred seventeen thousand dollars, of which sum two hundred sixty thousand seven hundred seventy-six dollars and twenty-five cents shall be paid from the Highway Fund . . . 817,000 00

Service of the Department of Banking and Insurance

Division of Insurance:

300. For other personal services of the division, including expenses of the board of appeal and certain other costs of supervising motor vehicle liability insurance, a sum not exceeding one hundred seventy-seven thousand five hundred and forty dollars, of which sum not more than thirty-five thousand dollars may be charged to the Highway Fund . . . 177,540 00

Service of the Department of Corporations and Taxation

Corporations and Tax Divisions:

308. For the salaries of certain positions filled by the commissioner, with the approval of the governor and council, and for additional clerical and other assistance, a sum not exceeding two hundred ten thousand five hundred dollars, of which sum not more than fifty thousand dollars may be charged to the Highway Fund to cover the estimated cost of collection of the gasoline tax, so called . . . 210,500 00

Service of the Department of Public Safety

Division of State Police:

546. For the salaries of officers, including detectives, a sum not exceeding four hundred nine thousand two hundred and fifty dollars, of which sum not more than one hundred twenty-nine thousand five hundred and twenty dollars may be charged to the Highway Fund . . . 409,250 00
548. For other necessary expenses of the uniformed division, including traveling expenses of detectives, a sum not exceeding three hundred sixty-five thousand five hundred dollars, of which sum not more than one hundred eighty-three thousand one hundred and fifty dollars may be charged to the Highway Fund . . . 365,500 00

Service of the Department of Public Works

The appropriations made in the following four items are to be paid three quarters from the Highway Fund and one quarter from the Port of Boston receipts:

565. For the salaries of the commissioner and the associate commissioners, a sum not exceeding sixteen thousand five hundred and seventy-five dollars . . . 16,575 00

Item

566.	For personal services of clerks and assistants to the commissioner, a sum not exceeding eight thousand dollars	\$8,000 00
567.	For traveling expenses of the commissioners, a sum not exceeding eighteen hundred dollars	1,800 00
568.	For telephone service in the public works building, a sum not exceeding twenty-six thousand and twenty-five dollars	26,025 00

Functions of the department relating to highways (the following appropriations, except as otherwise provided, are made from the Highway Fund):

569.	For the maintenance and operation of the new public works building, a sum not exceeding one hundred three thousand dollars	103,000 00
570.	For the salaries of watchmen for the public works building, a sum not exceeding ten thousand five hundred dollars	10,500 00
571.	For personal services of the chief engineer, engineers and office assistants, including certain clerks and stenographers, a sum not exceeding eighty-six thousand two hundred and forty dollars	86,240 00
572.	For services other than personal, including printing pamphlet of laws and the annual report, and necessary office supplies and equipment, a sum not exceeding ninety-seven hundred dollars	9,700 00
573.	For the suppression of gypsy and brown tail moths on state highways, a sum not exceeding twelve thousand dollars	12,000 00
574.	For the construction and repair of town and county ways, a sum not exceeding two million five hundred thousand dollars	2,500,000 00
575.	For aiding towns in the repair and improvement of public ways, a sum not exceeding nine hundred eighty-five thousand five hundred dollars	985,500 00
576.	For the maintenance and repair of state highways, including care of snow on highways, expenses of traffic signs and lights; for payment of damages caused by defects in state highways, with the approval of the attorney general; for care and repair of road-building machinery; and for the maintenance of a nursery for roadside planting, a sum not exceeding two million seven hundred thousand dollars	2,700,000 00
577.	For the purpose of enabling the department of public works to secure federal aid for the construction of highways, a sum not exceeding one million seven hundred thousand dollars	1,700,000 00
578.	For administering the law relative to advertising signs near highways, a sum not exceeding fifteen thousand dollars, to be paid from the General Fund	15,000 00
579.	For expenses of a topographical survey and map of the commonwealth, in addition to funds received from federal appropriations or private subscriptions, a sum not exceeding twenty-five thousand dollars	25,000 00
Registration of Motor Vehicles:		
580.	For personal services, a sum not exceeding eight hundred ninety-four thousand dollars, of which sum ten thousand dollars may be charged to the General Fund, and the remainder shall be paid from the Highway Fund	894,000 00
581.	For services other than personal, including traveling expenses, purchase of necessary supplies and materials, including cartage and storage of the same, and for work incidental to the registration and licensing of owners	

Item

	and operators of motor vehicles, a sum not exceeding four hundred ninety thousand dollars, to be paid from the Highway Fund	\$490,000 00
582.	For printing and other expenses necessary in connection with publicity for certain safety work, a sum not exceeding one thousand dollars, to be paid from the Highway Fund	1,000 00
	Functions of the department relating to waterways and public lands:	
583.	For personal services of the chief engineer and assistants, a sum not exceeding fifty thousand dollars	50,000 00
584.	For services other than personal, including printing pamphlet of laws and the annual report, and for necessary office and engineering supplies and equipment, a sum not exceeding sixteen hundred dollars	1,600 00
585.	For the care and maintenance of the province lands and of the lands acquired and structures erected by the Provincetown tercentenary commission, a sum not exceeding forty-seven hundred dollars	4,700 00
586.	For the maintenance of structures, and for repairing damages along the coast line or river banks of the commonwealth, and for the removal of wrecks and other obstructions from tide waters and great ponds, a sum not exceeding twenty-two thousand five hundred dollars	22,500 00
587.	For the improvement, development and protection of rivers and harbors, tide waters and foreshores within the commonwealth, as authorized by section eleven of chapter ninety-one of the General Laws, as appearing in the Tercentenary Edition thereof, and of great ponds, a sum not exceeding seventy-five thousand dollars, and any unexpended balance of the appropriation remaining at the end of the current fiscal year may be expended in the succeeding fiscal year for the same purposes; provided, that all expenditures made for the protection of shores shall be upon condition that at least fifty per cent of the cost is covered by contributions from municipalities or other organizations and individuals, and that in the case of dredging channels for harbor improvements at least twenty-five per cent of the cost shall be so covered	75,000 00
588.	For re-establishing and permanently marking certain triangulation points and sections, as required by order of the land court in accordance with section thirty-three of chapter ninety-one of the General Laws, as appearing in the Tercentenary Edition thereof, a sum not exceeding one thousand dollars	1,000 00
589.	For expenses of surveying certain town boundaries, by the department of public works, a sum not exceeding five hundred dollars	500 00
590.	For the operation and maintenance of the New Bedford state pier, a sum not exceeding five thousand dollars	5,000 00
591.	For the compensation of dumping inspectors, a sum not exceeding one thousand dollars	1,000 00
592.	For continuing the work in gauging the flow of water in the streams of the commonwealth, a sum not exceeding four thousand dollars	4,000 00
593.	For the maintenance and repair of certain property in the town of Plymouth, a sum not exceeding thirty-eight hundred dollars	3,800 00
594.	For the operation and maintenance of the Cape Cod Canal pier, a sum not exceeding four thousand dollars	4,000 00

Item

Functions of the department relating to Port of Boston
(the following items are to be paid from the Port of
Boston receipts):

595.	For the construction of railroads and piers and for the development of certain land, a sum not exceeding ten thousand dollars	\$10,000 00
596.	For the supervision and operation of commonwealth pier five, including the salaries or other compensation of employees, and for the repair and replacement of equipment and other property, a sum not exceeding one hundred thousand dollars	100,000 00
597.	For the maintenance of pier one, at East Boston, a sum not exceeding four thousand dollars	4,000 00
598.	For the maintenance and improvement of commonwealth property under the control of the department in connection with its functions relating to waterways and public lands, a sum not exceeding one hundred thousand dollars	100,000 00
599.	For dredging channels and filling flats, a sum not exceeding seventy thousand dollars, the same to be in addition to any unexpended balance of the appropriation made for the purpose in the previous year	70,000 00
600.	For removing abandoned hulks or wrecks lying along the waterfront of Boston harbor, a sum not exceeding five thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose	5,000 00

The following items are to be paid from the Highway
Fund, with the approval of the Metropolitan Dis-
trict Commission:

620.	For maintenance of boulevards and parkways, a sum not exceeding five hundred twenty-three thousand two hundred and seventy-five dollars	523,275 00
621.	For resurfacing of boulevards and parkways, a sum not exceeding two hundred thousand dollars	200,000 00
622.	For the cost of repairing certain storm damages to shore protection at Winthrop, a sum not exceeding twenty-two thousand dollars	22,000 00
623.	For maintenance of Wellington bridge, a sum not exceeding five thousand dollars	5,000 00

For certain other aid:

629.	For the compensation of certain public employees for injuries sustained in the course of their employment, as provided by section sixty-nine of chapter one hundred and fifty-two of the General Laws, as most recently amended by section seven of chapter three hundred and eighteen of the acts of nineteen hundred and thirty-three, a sum not exceeding sixty thousand dollars, of which sum not more than twenty-thousand dollars may be charged to the Highway Fund	60,000 00
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DEFICIENCIES

For deficiencies in certain appropriations of previous
years, in certain items, as follows:

Service of the Department of Public Works

Functions of the department relating to highways:

For the maintenance and repair of state highways, including care of snow on highways, expenses of traffic signs and lights, and payment of damages caused by defects in

state highways, with the approval of the attorney general; for care and repair of road-building machinery; and for the purchase and improvement of a nursery for roadside planting, the sum of nineteen dollars and fourteen cents, to be paid from the Highway Fund		\$19 14
For administering the law relative to advertising signs near highways, the sum of one hundred forty-seven dollars and twenty-two cents, to be paid from the General Fund		147 22

Functions of the department relating to Port of Boston:

For the supervision and operation of commonwealth pier five, including the salaries or other compensation of employees, and for the repair and replacement of equipment and other property, the sum of six dollars and sixty cents, to be paid from the Port of Boston receipts	6 60
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SECTION 5. No payment shall be made or obligation incurred under authority of any special appropriation made by this act for construction of public buildings or other improvements at state institutions until plans and specifications have been approved by the governor, unless otherwise provided by such rules and regulations as the governor may make.

SECTION 6. No expenses incurred on and after the date of the passage of this act for mid-day meals by state employees, other than those who receive as part of their compensation a non-cash allowance in the form of full or complete boarding and housing, and those employees who are stationed beyond commuting distance from their homes for a period of more than twenty-four hours, shall be allowed by the commonwealth.

Chapter 384, Acts of 1934, in addition to the general appropriation act making appropriations to supplement certain items contained therein, and for certain new activities and projects, is, in part, as follows:

SECTION 1. To provide for supplementing certain items in the general appropriation act, and for certain new activities and projects, the sums set forth in section two, for the particular purposes and subject to the conditions stated therein, are hereby appropriated from the general fund or ordinary revenue of the commonwealth, unless some other source of revenue is expressed, subject to the provisions of law regulating the disbursement of public funds and the approval thereof.

SECTION 2.

Item

Service of the Department of Public Works

Functions of the department relating to highways, to be paid from the Highway Fund:

569a. (This item omitted.)	
569b. For certain expenses incurred on account of the C. W. A. project "Study of Accidents", a sum not exceeding fifteen hundred dollars	\$1,500 00
574. For the construction and repair of town and county ways, a sum not exceeding one hundred fifty thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose	150,000 00
574a. For the cost of studies relative to the bridges across the Connecticut River at Turners Falls, a sum not exceeding ten thousand dollars	10,000 00
575. For aiding towns in the repair and improvement of public ways, a sum not exceeding four hundred fifty thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose	450,000 00

Item

Registration of Motor Vehicles:

581. For services other than personal, including traveling expenses, purchase of necessary supplies and materials, including cartage and storage of the same, and for work incidental to the registration and licensing of owners and operators of motor vehicles, a sum not exceeding forty thousand dollars, the same to be paid from the Highway Fund; provided, that the department is hereby authorized to expend in the current year such sum as is hereby made available for incorporating in the number plates for motor vehicles a device to protect the revenues of the commonwealth against the transfer of such number plates from one such vehicle to another, and, provided further, that the department may also continue expenditures for this purpose after November thirtieth of the current year in anticipation of a further appropriation \$40,000 00

Functions of the department relating to waterways and public lands:

590. For the operation and maintenance of the New Bedford state pier, a sum not exceeding two thousand dollars, the same to be in addition to any amount heretofore appropriated for the purpose 2,000 00
- 593a. For the construction of an addition to the breakwater off the shore at Winthrop, as authorized by chapter two hundred and eighty-six of the acts of the current year, a sum not exceeding sixty-four thousand dollars, of which sum sixteen thousand dollars is to be paid from the Highway Fund 64,000 00
594. For the operation and maintenance of the Cape Cod Canal pier, a sum not exceeding seven hundred dollars, the same to be in addition to any amount heretofore appropriated for the purpose 700 00

Miscellaneous

The following items are to be paid from the Highway Fund, with the approval of the Metropolitan District Commission:

- 622a. For the extension of Mystic Valley parkway, so called, as authorized by chapter one hundred and seventy-two of the acts of the current year, a sum not exceeding fifty thousand dollars 50,000 00
- 622b. For payment of a certain award to Boston University on account of land damages, a sum not exceeding one hundred eighty-two thousand three hundred fourteen dollars and fifty-five cents, the same to be in addition to any amount heretofore appropriated for the purpose. 182,314 55

DEFICIENCIES

For deficiencies in certain appropriations of previous years, in certain items, as follows:

Department of Public Works

For the maintenance and repair of state highways, including care of snow on highways, expenses of traffic signs and lights; for payment of damages caused by defects in state highways, with the approval of the attorney general; for care and repair of road-building machinery; and for the maintenance of a nursery for roadside planting, the

	sum of one hundred forty-four dollars and seventy-seven cents, to be paid from the Highway Fund	\$144 77
For	the purpose of enabling the department of public works to secure federal aid for the construction of highways, the sum of six hundred twelve dollars and eighty-one cents, to be paid from the Highway Fund	612 81
For	the construction and repair of town and county ways, the sum of three dollars and seventy-five cents, to be paid from the Highway Fund	3 75
For	removing the abandoned hulks or wrecks lying along the waterfront of East Boston and in Chelsea Creek, the sum of twenty-nine dollars and fifty-eight cents	29 58

OTHER APPROPRIATIONS

32e.	For expenses of the joint board to investigate relative to improving the sanitary condition of Lake Quinsigamond and its watershed, a sum not exceeding fifteen hundred dollars, the same to be in addition to the further sums of fifteen hundred dollars to be assessed upon the city of Worcester and fifteen hundred dollars to be assessed upon the town of Shrewsbury, as authorized by chapter thirty-two of the resolves of the current year	1,500 00
32f.	For expenses of an investigation by a special commission of the advisability of licensing contractors and builders, which was revived and continued by chapter thirty-four of the resolves of the current year, a sum not exceeding one hundred dollars	100 00
32i.	For expenses of a joint board for an investigation relative to the sewage problem in the South Essex sewerage district, a sum not exceeding one thousand dollars, the same to be in addition to the amount to be contributed from other sources, as authorized by chapter forty-nine of the resolves of the current year	1,000 00
574b.	For the construction by the department of public works of a traffic circle near the northerly end of Neponset River bridge, as authorized by chapter three hundred and forty-one of the acts of the current year, a sum not exceeding ninety thousand dollars, the same to be paid from the Highway Fund	90,000 00
574c.	For the commonwealth's proportion of the cost of certain repairs to the Chelsea North bridge, as authorized by chapter three hundred and forty-two of the acts of the current year, a sum not exceeding one hundred thirty-five thousand dollars, the same to be paid from the Highway Fund	135,000 00
374d.	For the reconstruction of Ocean avenue in the city of Revere, as authorized by chapter three hundred and seventy-five of the acts of the current year, a sum not exceeding two hundred thousand dollars, to be paid from the Highway Fund	200,000 00
600b.	For expenses of the Boston Port Authority and the state commissioner of public works, acting jointly, to make certain investigations and studies as authorized by a resolve of the current year, a sum not exceeding five thousand dollars	5,000 00
600a.	For a contribution by the commonwealth towards the cost of constructing a sea wall and other shore protection in the Hough's Neck district of the city of Quincy, as authorized by chapter three hundred and twenty-two of the acts of the current year, a sum not exceeding ten thousand dollars	10,000 00

Item

- 101a. For expenses of the governor's committee on highway safety, a sum not exceeding ten thousand dollars, to be paid from the Highway Fund, with the approval of the governor and council, the same to be used in addition to other sums contributed from private sources . . . \$10,000 00

SECTION 3. The following amendments and transfers are hereby authorized in appropriations previously made:

Department of Public Works

The department of public works is hereby authorized to rebate the rent of certain spaces in the public works building occupied by the Traffic Accident Survey organization during their employment under a certain C. W. A. project.

The department of public works is hereby authorized to charge the cost of maintenance and repair of the Myles Garrison House in the town of Swansea to Item 576 of chapter one hundred and sixty-two of the acts of the present year.

The appropriations made available during the current year for the construction and repair of town and county ways shall be considered available for use in connection with the repair or reconstruction of certain bridges and certain other highway projects which have been authorized by special legislation.

HIGHWAY FUND DIVERSION

Chapter 377, Acts of 1934, provided for the transfer of the proceeds of the gasoline tax from the Highway Fund to the General Fund, as follows:

WHEREAS, The deferred operation of this act would tend to defeat its purpose, therefore it is hereby declared to be an emergency law, necessary for the immediate preservation of the public convenience.

BE IT ENACTED, ETC., AS FOLLOWS:

The State treasurer is hereby authorized and directed to transfer the sum of ten million dollars from the Highway Fund to the General Fund.

FINANCIAL STATEMENT **Summary of Income, Year Ending November 30, 1934**

HIGHWAY FUND

Section 34, Chapter 90, General Laws, as amended
(See Chapter 288, Acts of 1925)

Fees (for registration of motor vehicles, licenses to operate, etc.), and fines (penalties, Sundry Courts), net receipts	\$6,563,559	84
Gasoline Tax, net	16,699,285	34
Contributions for highways and assessments (G. L. Ch. 81)	353,910	18
Appropriation balances of previous years reverting	159,871	85
Contributions and Refunds	8,243	07
Sale of old materials and buildings	12,055	39
Reimbursement for repairs to guard rail and other property	7,289	89
Rent of property (Nursery)	180	00
Rent of Space, Public Works Building	20,881	35
Slot Machine Receipts	195	70
		\$23,825,472 61

PORT OF BOSTON FUND

(Chapter 91, General Laws)

Rents (leases and permits)	\$149,005	03
Reimbursement for services (inspection of dumping dredged material in Boston Harbor)	709	65
Use of Commonwealth Pier 5 (wharfage, dockage, rentals, etc.)	123,124	71
Use of Commonwealth Pier 1 (rentals, etc.)	4,925	59
Revenue from permits for dumping dredged material at receiving basins	7,335	87
License charges (for tidewater displacement and occupying Commonwealth tide lands (Boston Harbor)	9,606	77
Telephone Pay Station receipts	72	27
Sales of land	47,518	99
Sales of Boston Harbor maps		25
Sundries	1,018	33
Appropriation balances of previous years reverting	50,999	51
		\$394,316 97

DEPARTMENT INCOME

(Ordinary Revenue)

Sales (specifications and plans for contracts)	\$456	00
Aircraft licenses	366	00
Reimbursement for services (inspection of dumping dredged material outside of Boston Harbor, Ch. 196, Acts of 1925)	24	30
License charges (for tidewater displacement and occupying Commonwealth tide lands) outside of Boston Harbor	1,601	66
Certified copying charges	87	00
Sale of Atlas sheets and miscellaneous plans	550	40
Use of Province Lands (S. 25, c. 91, G. L.)	193	20
Permits for advertising signs	14,995	88
Use of New Bedford State Pier	18,467	32
Use of Cape Cod Canal State Pier	1,394	01
Conscience fund	2	00
		\$38,137 77

IMPROVEMENT OF RIVERS AND HARBORS TRUST

(Sections 11, 29, Chapter 91, General Laws)

Contributions from towns, individuals or others . . . \$60,547 50

HIGHWAY TRUST

(Section 30, Chapter 81, General Laws)

Federal Aid (reimbursement from United States Government) \$4,706,698 11

FUNDS CONTRIBUTED FOR WORK UNDER SPECIAL ACTS

Contribution by Town of Hull (c. 330, Acts of 1933) \$4,000 00

Contribution by County of Plymouth (c. 330, Acts
of 1933) 4,000 00

\$8,000 00

Total \$29,033,172 96

EXPENDITURES

The expenditures by the Department under the provisions of General Laws and other acts and the appropriation acts, chapters 162 and 384, Acts of 1934, during the fiscal year ending November 30, 1934, were as follows:

ADMINISTRATIVE

Commissioner, Associate Commissioners, Personal
Services of clerks, stenographers, and Commis-
sioners' Travel \$26,170 00

Public Works Building, land and services . . . 44,027 52

Public Works Building, equipment 8,941 38

Public Works Building, operation and maintenance 87,915 06

Salaries of Watchmen 10,536 11

Telephone service 20,086 47

\$197,676 54

RELATING TO HIGHWAYS

Personal Services—Chief Engineer, clerks and ste-
nographers \$86,834 10State Highways—Construction (Chapter 81, Gen-
eral Laws) General contract work . . . \$3,850,238 26

Engineering (Supervision) 618,148 00

Highway Testing Laboratory 11,925 81

Hingham-Hull (Chapter 118, Acts of 1931) . . 12,456 50

Fore River Bridge:

Temporary Bridge . . . \$103,640 48

Substructure 563,452 93

Superstructure 76,615 54

743,708 95

5,236,477 52Maintenance and Repair of State Highways (Chapter
81, General Laws)

Reconstruction of State Highways

General contract work \$1,795,742 11

Engineering, supervision on reconstruction . . 410,337 66

2,206,079 77

Ordinary Maintenance

General Maintenance \$1,162,051 31

Engineering (Supervision) 285,092 19

Highway Testing Laboratory 10,549 06

Care and Repair of road building machinery . . 141,925 99

Removal of snow from highways 916,701 86

Road planting and development 31,196 43

Traffic engineering, signs, and traffic count	\$128,672 17	
Paint manufacture	15,275 63	
Newburyport Bridge, Salisbury-Newburyport, over Merrimac River, maintenance and operation	5,220 12	
Brightman St. Bridge, Fall River-Somerset, maintenance and operation	30,038 15	
New Bedford-Fairhaven Bridge, Acushnet River, maintenance and operation	19,625 75	
Quincy-Weymouth Bridge, maintenance and operation	5,048 37	
Route and detour maps	2,285 15	
Topographical survey	24,972 54	
Geodetic survey	1,188 02	
	<hr/>	\$2,779,842 74
<i>Construction of Town and County Ways</i>		
(Section 34, Chapter 90, General Laws)		
State's expenditures for work contracted for in cities and towns	\$2,151,772 06	
Engineering and expense (supervision)	435,614 07	
	<hr/>	2,587,386 13
<i>Aiding Towns in the Repair and Improvement of Public Ways (Section 26, Chapter 81, General Laws)</i>		
State's expenditures for work contracted for in cities and towns	\$1,254,297 92	
Engineering and expense (supervision)	67,122 53	
	<hr/>	1,321,420 45
<i>Emergency Public Works Construction</i>		3,680,694 16
<i>Special Acts:</i>		
Expenditures under the provisions of Chapter 122, Acts of 1931		76,239 77
<i>Incidentals</i> (printing, postage, supplies, etc.)		6,486 59
<i>Advertising signs, regulation of, personal services and expenses</i>		14,436 11
<i>Highways in Malden, Braintree, Weymouth and Hingham</i>		1,514 79
<i>Highways in Metropolitan District</i> (Chapter 420, Acts of 1930, as amended by Chapter 450, Acts of 1931)		
Section 1. Canton-Dedham-Wellesley, etc.	\$73,595 94	
Section 2. Canterbury St., Boston	32,413 09	
Section 3. Land taking Neponset River, Milton	1,470 56	
Section 4. West Roxbury-Brookline Parkway	26,043 83	
	<hr/>	133,523 42
<i>Abolition of Grade Crossings</i> (Chapter 417, Acts of 1930)		802 28
<i>Construction of Saugus River Bridge</i> (Chapter 241, Acts of 1932)		56,812 52
<i>Expenditures under Chapter 258, Acts of 1932</i>		
Section 1. State Highway, Revere	\$65,671 12	
Section 2. Boston-Revere	16,912 77	
Section 3. Ocean Ave., Revere	16,946 31	
	<hr/>	99,530 20
<i>Alewife Brook Parkway Extension</i> (Chapter 302, Acts of 1932)		167,418 35
<i>Study of Accident Expenses</i> (Chapter 384, Acts of 1934)		1,390 39
<i>Traffic Circle, Neponset River</i> (Chapter 341, Acts of 1934)		897 25

<i>Reconstruction of Ocean Ave., Revere</i> (Chapter 375, Acts of 1934)	\$956 74
<i>Study relative to Bridges, Turners Falls</i> (Chapter 314, Acts of 1934)	12 85
<i>Suppression of gypsy and brown-tail moths, on State highways in cities and towns</i>	11,991 43
<i>Total Expenditures for Highways</i>	<u>\$18,470,747 56</u>

SUMMARY OF EXPENDITURES RELATING TO WATERWAYS

General Expenses	\$53,046 69
<i>Boston Harbor:</i>	
Dredging and Filling	114,807 26
Free Port Investigation (Chapter 48, Resolves 1934)	1,430 91
Maintenance and Operation of Commonwealth Pier No. 5, South Boston	101,841 42
Maintenance and Operation of Commonwealth Pier No. 1, East Boston	1,007 86
Maintenance of Property	72,289 39
Stony Beach, Hull (Chapter 330, Acts 1933)	16,101 47
Streets, Piers and Railroads	7,036 93
Wrecks, removal of	5,880 37
<i>Outside of Boston Harbor:</i>	
Cape Cod Canal Pier, construction	4,062 05
Cape Cod Canal Pier, operation and maintenance	4,545 82
Cape Poge, Edgartown (Federal Public Works Adm.)	12,827 01
Compensation of Dumping Inspectors	372 83
Herring River, Wellfleet (Chapter 217, Acts 1933)	5,306 92
Improvement of Rivers and Harbors	113,315 08
Marshfield Shore Protection (Chapter 407, Acts 1931)	1,282 50
Nahant Shore Protection	27,798 76
New Bedford Pier, operation and maintenance	7,014 72
Plymouth Property, expenses of	3,515 74
Province Lands, expenses of	4,653 60
Repairing damages to shore	21,949 71
Stream Gauging	4,000 00
Scituate Shore Protection (Chapter 286, Acts 1933)	29,417 86
Town Boundaries, surveying	440 64
Topographical Survey	730 90
Winthrop Shore Protection (Chapter 265, Acts 1932)	37,636 62
Winthrop Shore Protection (Chapter 286, Acts 1934)	51,096 20
<i>Total</i>	<u>\$703,409 26</u>

EXPENDITURES RELATING TO THE REGISTRY OF MOTOR VEHICLES

Cost of running the Registry of Motor Vehicles	\$1,357,509 98
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SUMMARY OF EXPENDITURES BY DEPARTMENT
FOR YEAR ENDING NOVEMBER 30, 1934

Administrative	\$197,676 54
Relating to Highways	18,470,747 56
Registry of Motor Vehicles	1,357,509 98
Relating to Waterways	703,409 26
<i>Total</i>	<u>\$20,729,343 34</u>

CO-OPERATIVE WORK — SUPERVISION OF EXPENDITURES

The Department has supervised the expenditures during the year by cities, towns and counties, under Chapter 81 General Laws, as amended, of approximately \$2,424,333.28 for co-operative work, in repairing, maintaining and improv-

ing certain public ways, and for other road work for which the towns and cities made contributions. All such work was carried out in conformity with contracts, specifications and plans approved by the Department.

RELATING TO HIGHWAYS

GENERAL STATEMENT

State Highways.—During the year ending November 30, 1934, the Department laid out new State highways amounting to 29.53 miles in 30 cities and towns. Under Chapter 81, General Laws, as amended by Chapter 427, Acts of 1931, 133 miles of State Highways were discontinued or abandoned. The total length of State Highways at the end of the year was 1852.26 miles.

Highways Constructed in 1934.—Construction has been completed on 31,906 miles of State highway and 189,795 miles of highway under the provisions of Section 34, Chapter 90, General Laws, as amended, making a total of 221,791 miles completed during the year.

Of the above highways completed this year, the classification according to type of pavement is as follows:

- 6.864 miles of Reinforced Cement Concrete.
- 7.688 miles of Sheet Type Cement Concrete.
- 74.596 miles of Bituminous Macadam.
- 14.259 miles of Bituminous Concrete.
- 73.891 miles of Bituminous Concrete (Mixed in Place).
- 0.768 mile of Waterbound Macadam (Bituminous Surfacing).
- 24.599 miles of Gravel with Bituminous Treatment.
- 19.073 miles of Gravel.
- 0.063 mile of Brick.

Resurfacing, Reconstruction and Widening of State Highways.—During the year 30,297 miles of State highway were widened but not resurfaced, and 78,914 miles were resurfaced or reconstructed and widened. In addition to this work on which the surfacing has been completed, there are several miles of road in various stages of completion which are scheduled to be finished next year.

The Resurfacing or Reconstruction of State Highways in 1934 was divided into types as follows:

- 1,318 miles of Reinforced Cement Concrete.
- 70,528 miles of Bituminous Macadam.
- 1,983 miles of Bituminous Concrete.
- 4,498 miles of Dual (Rein. Conc. and Bit. Macadam).
- 0.587 mile of Brick.

Surveys, Plans and Estimates.—During the year ending November 30, 1934, preliminary surveys, plans and estimates were made as follows:

For State Highway Construction.—Reconnaissance survey in 4 cities and 5 towns, 19,780 miles; reconnaissance plans in 3 cities and 2 towns, 14,174 miles; reconnaissance estimates in 3 cities and 4 towns, 14,200 miles. Preliminary surveys in 2 cities and 10 towns, 23,075 miles; plans in 4 cities and 9 towns, 17,208 miles; preliminary estimates in 6 cities and 15 towns, 30,019 miles; lines and grades in 7 cities and 13 towns, 35,167 miles; and final surveys in 5 cities and 6 towns, 16,838 miles.

For State Highway Reconstruction and Resurfacing.—Reconnaissance survey in 3 towns, 0.928 mile; reconnaissance plans in 2 towns, 0.665 mile. Preliminary surveys in 9 cities and 42 towns, 97,394 miles; plans in 6 cities and 32 towns, 81,735 miles; preliminary estimates in 8 cities and 32 towns, 89,596 miles; lines and grades in 14 cities and 51 towns, 147,076 miles; and final survey in 8 cities and 37 towns, 84,612 miles.

Under Section 34, Chapter 90, General Laws, as amended.—Reconnaissance surveys in 1 city and 18 towns, 29,974 miles. Preliminary surveys in 12 cities and 171 towns, 189,798 miles; plans in 12 cities and 163 towns, 180,465 miles; preliminary estimates in 12 cities and 162 towns, 171,090 miles; lines and grades in

10 cities and 163 towns, 179.399 miles; and final surveys in 8 cities and 47 towns, 53.223 miles.

Under the provisions of various Acts and Resolves, surveys, plans, estimates, lines and grades and final surveys were made as follows: —

Chapter 24, Resolves of 1933, Section A: 29.79 miles of reconnaissance estimates in 4 cities and 8 towns.

Chapter 31, Resolves of 1934, Section A: 0.214 mile of reconnaissance estimate in 1 city; Section C: 0.49 mile of reconnaissance estimate in 1 city.

Chapter 45, Resolves of 1934, Section A: 2.03 miles of reconnaissance estimate in 1 city; Section B: 0.53 mile of reconnaissance estimate in 1 city.

Chapter 341, Acts of 1934: 0.222 mile of survey, plans and estimate in 1 city.

Chapter 417, Acts of 1930: 0.284 mile of reconnaissance estimate in 1 city.

Precise levels have been made covering 385 miles in 70 cities and towns; 146 U. S. C. & G. S. bench mark disks have been set in 25 cities and towns, and 25 D. P. W. bench mark disks have been set in 16 cities and towns.

Permits.—There were 1,676 permits issued during the year for opening or occupying State highways for various purposes.

Engineering Advice to Municipal Authorities.—The Department furnished engineering advice without charge to 48 cities and towns in accordance with the provisions of Section 1, Chapter 81, General Laws.

Approval of Specifications.—The Department approved during the year under the provisions of Section 7, Chapter 44, General Laws, as amended, specifications for the construction of roads in 14 towns and cities.

Planting of Trees on State Highways.—During the past year, 5,024 trees were planted along roadsides making a total of 69,915 trees thus set out in the past thirty years. In addition, there were planted throughout the State 9,675 shrubs, 1,742 vines, and 1,074 evergreens; also 7,041 small pines on bare slopes and ragged cuts.

PETITIONS, MEETINGS AND HEARINGS

In addition to the regular weekly meetings of the Department throughout the year, numerous hearings and conferences have been held, including the annual hearings in the several counties in the Commonwealth for the open discussion of questions relating to the public ways, as required by section 1, chapter 81, General Laws; appeals from the action taken by the Registrar of Motor Vehicles in the suspension or revocation of certain licenses to operate motor vehicles in 76 cases; on the matter of outdoor advertising in 5 towns and cities; on the matter of special regulations for motor vehicles in Waltham and Revere; on the matter of laying out a State highway at a level with the railroad across the location of the Newburyport branch of the Boston & Maine Railroad, at or in the vicinity of Parker Street, in Newburyport; on the matter of the alteration of the Railroad Bridge and approaches at Point of Pines in the city of Revere, and on traffic conditions on the Worcester Turnpike in Newton and Wellesley.

Petitions were received and contracts signed during the year as follows:

	Petitions	Contracts
State highways	51	45
Work under section 34, chapter 90, General Laws		460
Work under section 26, chapter 81, General Laws	181	181
Work under Special Acts		6
Miscellaneous		15
Total	232	707

STATE HIGHWAYS

PETITIONS FOR STATE HIGHWAYS

General Laws, chapter 81, section 4 (Tercentenary Edition), provides that —

“If county commissioners, aldermen or selectmen adjudge that public necessity and convenience require that the Commonwealth lay out and take charge of

a new or existing way as a highway in whole or in part, in their county, city or town, they may apply, by a written petition, to the department, requesting that said way be laid out and taken charge of by the Commonwealth."

Petitions under the aforesaid section have been received during the year, as follows: —

SELECTMEN OF HINGHAM: — Road locally known as Derby Street, extending from Whiting Street westerly to the dividing line between the towns of Hingham and Weymouth. Received December 6, 1933.

MAYOR AND CITY COUNCIL OF NEWBURYPORT: — Road extending from a point on State Street at or near the dividing line between the city of Newburyport and the town of Newbury northerly, over a new location, and including Winter and Summer Streets and Bridge Road, to the Newburyport-Salisbury bridge over the Merrimack River. Received December 12, 1933.

SELECTMEN OF HINGHAM: — Road extending from Whiting Street at its junction with Derby Street northeasterly, over a new location, to Main Street at or near its junction with Prospect Street. Received December 12, 1933.

SELECTMEN OF STOUGHTON: — Road locally known as Turnpike and Park Streets, extending from the dividing line between the towns of Canton and Stoughton to the dividing line between the town of Stoughton and the city of Brockton. Received December 20, 1933.

SELECTMEN OF RANDOLPH: — Road locally known as High Street, extending from the dividing line between the towns of Canton and Randolph to the dividing line between the town of Randolph and the city of Quincy. Received December 20, 1933.

SELECTMEN OF CANTON: — Road locally known as Cedar Street, extending from the dividing line between the towns of Randolph and Canton to the dividing line between the towns of Canton and Stoughton. Received December 20, 1933.

SELECTMEN OF WEST BROOKFIELD: — Road locally known as Ware Road, extending from the dividing line between the towns of West Brookfield and Ware to the junction of the Ware Road with Main Street. Received January 3, 1934.

MAYOR AND MUNICIPAL COUNCIL OF ATTLEBORO: — Road locally known as Washington Street, extending from the Massachusetts-Rhode Island State line northerly for about 147 feet. Received January 9, 1934.

SELECTMEN OF BRIMFIELD: — Road locally known as Wales Road, extending southerly from Brimfield Post Office for about one-half a mile. Received February 1, 1934.

SELECTMEN OF TYNGSBOROUGH: — Road locally known as Kendall Road, extending from Tyngsborough bridge to the dividing line between the towns of Tyngsborough and Dunstable. Received February 23, 1934.

SELECTMEN OF MANCHESTER: — Road extending from the dividing line between the towns of Wenham and Manchester easterly, over a new location, to the dividing line between the town of Manchester and the city of Gloucester. Received March 6, 1934.

MAYOR AND ALDERMEN OF GLOUCESTER: — Road extending from the dividing line between the town of Manchester and the city of Gloucester northeasterly, over a new location, to Essex Avenue at or near Magnolia Avenue. Received March 9, 1934.

SELECTMEN OF WENHAM: — Road extending from the dividing line between the city of Beverly and the town of Wenham at or near Boulder Lane northeasterly, over a new location, to the dividing line between the towns of Wenham and Manchester. Received March 14, 1934.

MAYOR AND ALDERMEN OF BEVERLY: — Road extending from the junction of Lothrop and Hale Streets northeasterly over Lothrop Street and new location to the dividing line between the city of Beverly and the town of Wenham at or near Boulder Lane. Received March 15, 1934.

SELECTMEN OF HANOVER: — Road locally known as Hanover Street, extending

westerly from the end of the existing State highway near the corner of Spring Street to Market Street. Received May 10, 1934.

SELECTMEN OF COHASSET: — Road locally known as King Street, extending from the junction of King Street with the new State road northeasterly to a point on North Main Street about opposite Red Gate Lane. Received July 20, 1934.

SELECTMEN OF DEDHAM: — Road extending from Washington Street at its intersection with the new Providence Road northerly, over a new location, to a point on the dividing line between the town of Dedham and the city of Boston between the Charles River and the New York, New Haven & Hartford Railroad. Received September 25, 1934.

SELECTMEN OF BELCHERTOWN: — Road constructed by the Metropolitan District Water Supply Commission extending from the junction of Parker Road and Amherst Road northerly to the dividing line between the towns of Belchertown and Pelham. Received September 17, 1934.

SELECTMEN OF NEW SALEM: — Road constructed by the Metropolitan District Water Supply Commission, extending from the dividing line between the towns of Shutesbury and New Salem northeasterly to the dividing line between the towns of New Salem and Orange. Received September 17, 1934.

SELECTMEN OF PELHAM: — Road constructed by the Metropolitan District Water Supply Commission, extending from the dividing line between the towns of Belchertown and Pelham northerly to the dividing line between the towns of Pelham and Shutesbury. Received September 12, 1934.

SELECTMEN OF SHUTESBURY: — Road constructed by the Metropolitan District Water Supply Commission extending from the dividing line between the towns of Pelham and Shutesbury northerly and northeasterly to the dividing line between the towns of Shutesbury and New Salem; and at the New Salem line near Cooleyville. Received September 17, 1934.

SELECTMEN OF BROOKLINE: — Road locally known as Boylston Street, extending from the end of the existing State highway near Sumner Road northeasterly to High Street. Received September 18, 1934.

SELECTMEN OF SUTTON: — Road extending from the dividing line between the towns of Millbury and Sutton southeasterly, over a new location, to a point on the dividing line between the towns of Sutton and Northbridge at or near Whitinsville Road. Received September 18, 1934.

SELECTMEN OF UXBRIDGE: — Road extending from the dividing line between the towns of Sutton and Uxbridge southeasterly, over a new location, to a point on Ironstone Road at or near the property of F. J. Hamilton. Received September 18, 1934.

SELECTMEN OF NORTHBRIDGE: — Road extending from the dividing line between the towns of Sutton and Northbridge southeasterly along or near Prentice Road again to the dividing line between the towns of Northbridge and Sutton. Received September 18, 1934.

SELECTMEN OF PHILLIPSTON: — Road extending from Phillipston Four Corners southerly to Phillipston Center; thence westerly and southerly to an intersection with Queen Lake Road, and thence southwesterly to the dividing line between the towns of Phillipston and Petersham. Received October 2, 1934.

SELECTMEN OF PAXTON: — Road locally known as Richards Avenue, extending from Paxton Common to Maple Avenue. Received October 16, 1934.

SELECTMEN OF MILLBURY: — Road extending from a point on North Main Street at or near Greenwood Street southeasterly, over a new location, to a point on the dividing line between the towns of Millbury and Sutton west of Hathaway's Pond. Received November 20, 1934.

SELECTMEN OF ORANGE: — Road locally known as the New Salem-Athol Road, extending from the dividing line between the towns of New Salem and Orange to the dividing line between the towns of Orange and Athol. Received November 20, 1934.

MAYOR AND BOARD OF STREET COMMISSIONERS OF BOSTON: — Road extending

from the junction of Brook Farm Parkway and Spring Street southerly, over a new location, to the dividing line between the city of Boston and the town of Dedham. Received November 23, 1934.

MAYOR AND BOARD OF STREET COMMISSIONERS OF BOSTON: — Road extending from the southwesterly terminus of the Northern Radial Highway to the Porter Street entrance of the Sumner Tunnel. Received November 26, 1934.

CONSTRUCTION AND RECONSTRUCTION OF STATE HIGHWAYS (Chapter 81, General Laws, as amended)

The following contracts were entered into during the year for the construction and reconstruction of State highways, and work incidental thereto, in various municipalities: —

Otis

December 13, 1933, contract made with Daniel O'Connell's Sons, Inc., of Holyoke, for constructing about 2,304 feet of State highway on Monterey Road and about 17,434 feet of State highway on Blandford Road, the surface consisting of stone mixed in place with tar. The proposal amounted to \$94,774.95. Work completed November 9, 1934. Expenditure during 1934, \$86,144.51.

North Adams

December 13, 1933, contract made with Daniel O'Connell's Sons, Inc., of Holyoke, for constructing and reconstructing about 4,600 feet of State highway on Williamstown Road, the surface consisting of brick pavement. The proposal amounted to \$77,882.95. Work practically completed. Expenditure during 1934, \$71,665.46.

Fairhaven

December 26, 1933, contract made with Eastern Contracting Company, of Quincy, for constructing about 5,345 feet of State highway on new location and Spring Street, the surface on 3,837 feet consisting of reinforced cement concrete. The proposal amounted to \$60,066.60. Work completed August 22, 1934. Expenditure during 1934, \$66,103.99.

Revere

December 13, 1933, contract made with M. McDonough Co., of Saugus, for constructing about 5,060 feet of State highway on new location and George Street, the surface consisting of sections of reinforced cement concrete, bituminous macadam and plain cement concrete. The proposal amounted to \$238,984.85. Work about three-fifths completed. Expenditure during 1934, \$145,178.12.

North Adams

January 2, 1934, contract made with Carl B. Lindholm, of Pittsfield, for constructing four bridges on Williamstown Road and repairing one bridge on Depot Street. The proposal amounted to \$84,425.80. Work completed November 8, 1934. Expenditure during 1934, \$84,141.67.

Stoughton

January 2, 1934, contract made with Arute Bros., Incorporated, of Bridgewater, for constructing a steel through plate girder bridge with reinforced concrete floor over the tracks of the New York, New Haven & Hartford Railroad Company on the State highway, known as Washington Street; the surface over the bridge consisting of bituminous concrete. The proposal amounted to \$38,038.50. Work completed June 26, 1934. Expenditure during 1934, \$39,871.03.

Auburn

January 9, 1934, contract made with Charles I. Hosmer, Inc., of Greenfield, for constructing a steel through plate girder bridge over the tracks of the New York, New Haven & Hartford Railroad Company, and extending the reinforced concrete beam bridge over the outlet to Dunn's Pond, on the State highway in Auburn, known as Auto Route 12. The proposal amounted to \$54,693.20. Work completed August 22, 1934. Expenditure during 1934, \$61,130.89.

Auburn

February 27, 1934, contract made with Peter Salvucci, of Waltham, for reconstructing about 2,274 feet of State highway on Southbridge Street, the surface consisting of four lanes of standard reinforced cement concrete. The proposal amounted to \$39,821.50. Work completed September 1, 1934. Expenditure during 1934, \$41,006.63.

Revere

April 2, 1934, contract made with M. McDonough Co., of Saugus, for reconstructing about 11,150 feet of State highway on North Shore Road in Revere, the surface consisting of bituminous macadam. The proposal amounted to \$174,488.10. Work completed August 8, 1934. Expenditure during 1934, \$197,755.52.

Brookline

April 3, 1934, contract made with Coleman Bros. Corporation, of Boston, for constructing about 6,185 feet of State highway on Boylston Street in Brookline, the surface consisting of reinforced cement concrete constructed on each side of a loam section but separated therefrom by bituminous concrete shoulders. The proposal amounted to \$206,682.90. Work about four-fifths completed. Expenditure during 1934, \$184,358.19.

Ashland-Holliston

April 3, 1934, contract made with Ellsworth H. Lewis, of Andover, for widening about 9,102 feet of State highway on Pond Street in Ashland and about 8,500 feet of State highway on Concord Street in Holliston, the surface consisting of bituminous macadam. The proposal amounted to \$33,061.00. Work completed May 24, 1934. Expenditure during 1934, \$26,686.99.

Palmer

April 10, 1934, contract made with Kelleher Corporation, of Montague, for reconstructing and widening about 22,923 feet of State highway on Ware Road in Palmer, the surface consisting of bituminous macadam. The proposal amounted to \$81,193.50. Work completed September 18, 1934. Expenditure during 1934, \$87,103.47.

Newburyport

April 12, 1934, contract made with Arute Bros., Incorporated, of Bridgewater, for constructing a reinforced concrete beam and steel plate girder bridge on the State highway in Newburyport over Merrimac Street, the surface over the bridge consisting of bituminous concrete. The proposal amounted to \$120,590.12. Work about five-sixths completed. Expenditure during 1934, \$104,873.29.

Agawam

April 17, 1934, contract made with Daniel O'Connell's Sons, Inc., of Holyoke, for reconstructing about 12,400 feet of State highway on River Road in Agawam, the surface consisting of bituminous macadam. The proposal amounted to \$31,628.85. Work completed September 22, 1934. Expenditure during 1934, \$37,308.82.

Saugus

April 18, 1934, contract made with M. McDonough Co., of Saugus, for widening and resurfacing about 3,744 feet of State highway on Essex Street in Saugus, the surface consisting of bituminous macadam. The proposal amounted to \$13,747.50. Work completed July 31, 1934. Expenditure during 1934, \$13,865.57.

Winchendon

April 18, 1934, contract made with Kelleher Corporation, of Montague, for reconstructing about 3,590 feet of State highway on Maple Street in Winchendon, the surface consisting of bituminous macadam. The proposal amounted to \$10,269.49. Work completed July 5, 1934. Expenditure during 1934, \$12,277.85.

Charlton-Sturbridge

April 24, 1934, contract made with Rome Construction Company, of Quincy, for reconstructing about 15,626 feet of State highway on Sturbridge Road in Charlton, and about 14,020 feet of State highway on the same road in Sturbridge, the surface consisting of bituminous macadam. The proposal amounted to \$119,300.00. Work practically completed. Expenditure during 1934, \$106,765.85.

Ware

April 24, 1934, contract made with Kelleher Corporation, of Montague, for reconstructing about 10,000 feet of State highway on Palmer Road in Ware, the surface consisting of bituminous macadam. The proposal amounted to \$36,670.30. Work completed July 20, 1934. Expenditure during 1934, \$36,665.57.

Lexington

May 2, 1934, contract made with Warren Brothers Roads Company, of Cambridge, for constructing a reinforced concrete rigid frame bridge over Waltham Street in Lexington. The proposal amounted to \$37,427.65. Work completed November 7, 1934. Expenditure during 1934, \$32,494.93.

Great Barrington

May 2, 1934, contract made with Louis Longhi & Son, of Torrington, Conn., for reconstructing about 2,200 feet of State highway on Monterey Road in Great Barrington, the surface consisting of bituminous macadam. The proposal amounted to \$25,141.00. Work completed November 24, 1934. Expenditure during 1934, \$23,967.90.

Richmond

May 15, 1934, contract made with Green Island Construction Company, Inc., of Green Island, New York, for constructing about 9,010 feet of State highway on Canaan Road in Richmond, the surface consisting of bituminous macadam. The proposal amounted to \$65,359.50. Work completed November 5, 1934. Expenditure during 1934, \$53,818.21.

Fall River-Somerset

May 15, 1934, contract made with Seaboard Construction Company, of Chelsea, for making repairs to two fender piers of the Brightman Street Bridge. The proposal amounted to \$6,878.00. Work completed August 21, 1934. Expenditure during 1934, \$6,969.66.

Newburyport

May 23, 1934, contract made with George A. Fuller Company, of Boston, for constructing a steel rigid frame bridge with reinforced concrete deck under High Street, a reinforced concrete rigid frame bridge under Washington Street, and about 7,186 feet of State highway on new location, the surface consisting of standard reinforced Portland cement concrete constructed on each side of a center reservation but separated therefrom by bituminous concrete shoulders, dual type of pavement consisting of three lanes of reinforced cement concrete bordering an inner lane of bituminous macadam, and bituminous concrete. The proposal amounted to \$401,486.89. Work about two-thirds completed. Expenditure during 1934, \$260,820.51.

Arlington-Belmont-Lexington

May 23, 1934, contract made with George A. Fuller Company, of Boston, for constructing about 16,754 feet of State highway on new location in Arlington, Belmont and Lexington, the surface consisting of four lanes of sheet type cement concrete with bituminous macadam shoulders on each side. The proposal amounted to \$364,652.43. Work about two-thirds completed. Expenditure during 1934, \$269,957.13.

Lexington-Lincoln

May 23, 1934, contract made with B. Perini & Sons, Inc., of Framingham, for constructing about 28,390 feet of State highway on Concord Avenue and new loca-

tion in Lexington and Lincoln, the surface consisting of four lanes of sheet type cement concrete with bituminous macadam shoulders on each side. The proposal amounted to \$577,612.50. Work about four-fifths completed. Expenditure during 1934, \$449,712.45.

Lowell-Tyngsborough

June 6, 1934, contract made with Ellsworth H. Lewis, of Andover, for reconstructing about 5,113 feet of State highway on Pawtucket Boulevard in Lowell, and about 15,429 feet of State highway on the same road in Tyngsborough, the surface consisting of bituminous macadam. The proposal amounted to \$110,568.10. Work completed September 28, 1934. Expenditure during 1934, \$124,094.63.

Easton-Raynham-Taunton

June 6, 1934, contract made with Arute Bros., Incorporated, of Bridgewater, for reconstructing about 23,428 feet of State highway on Washington and Turnpike Streets in Easton, about 22,089 feet of State highway on Broadway in Raynham, and about 2,021 feet of State highway on Broadway in Taunton, the surface consisting of reinforced cement concrete. The proposal amounted to \$199,748.18. Work practically completed. Expenditure during 1934, \$185,658.57.

Concord

June 8, 1934, contract made with B. Perini & Sons, Inc., of Framingham, for constructing and reconstructing about 12,100 feet of State highway on Elm Street and new location in Concord, the surface consisting of four lanes of standard reinforced cement concrete with bituminous macadam shoulders on each side. The proposal amounted to \$375,300.68. Work about two-thirds completed. Expenditure during 1934, \$215,104.41.

Concord-Lincoln

June 8, 1934, contract made with B. Perini & Sons, Inc., of Framingham, for constructing a reinforced concrete beam and steel stringer bridge over the Boston & Maine Railroad in Concord, and constructing about 11,500 feet of State highway on new location in Concord, and about 3,000 feet of State highway on new location in Lincoln, the surface on about 11,050 feet consisting of four lanes of reinforced cement concrete with bituminous macadam shoulders on each side, the surface on about 3,349 feet consisting of bituminous macadam, and the surface over the railroad bridge consisting of bituminous concrete. The proposal amounted to \$266,212.94. Work practically completed. Expenditure during 1934, \$214,785.90.

Sterling-Leominster

June 8, 1934, contract made with R. H. Newell Company, of Uxbridge, for reconstructing about 13,654 feet of State highway on Leominster Road in Sterling, and about 13,411 feet of State highway on Central Street in Leominster, the surface consisting of sections of bituminous macadam with reinforced cement concrete on each side, and bituminous macadam. The proposal amounted to \$164,090.20. Work practically completed. Expenditure during 1934, \$149,797.56.

Brimfield-Sturbridge

June 12, 1934, contract made with the New Haven Road Construction Company, Incorporated, for reconstructing about 22,169 feet of State highway on the Sturbridge Road in Brimfield, and about 13,218 feet of State highway on the Brimfield Road in Sturbridge, the surface consisting of bituminous macadam. The proposal amounted to \$207,835.70. Work practically completed. Expenditure during 1934, \$174,332.37.

Essex-Gloucester

June 15, 1934, contract made with Welch & Moynihan Co., of Salem, for reconstructing about 5,850 feet of State highway on Eastern Avenue in Essex, and about 26,907 feet of State highway on Essex Avenue in Gloucester, the surface consisting of bituminous macadam. The proposal amounted to \$205,699.15. Work about four-fifths completed. Expenditure during 1934, \$167,871.19.

Lawrence-North Andover

June 26, 1934, contract made with James E. Watkins Company, Inc., of Amesbury, for reconstructing about 3,117 feet of State highway on Turnpike Street in North Andover, and about 2,365 feet of State highway on Winthrop Avenue in Lawrence, the surface consisting of sections of reinforced cement concrete and bituminous macadam. The proposal amounted to \$42,184.40. Work completed November 17, 1934. Expenditure during 1934, \$38,211.57.

Hatfield-Northampton

July 3, 1934, contract made with Kelleher Corporation, of Montague, for reconstructing about 10,761 feet of State highway on West Street in Hatfield, and about 9,539 feet of State highway on Laurel Park Road in Northampton, the surface consisting of bituminous macadam. The proposal amounted to \$137,649.50. Work completed November 23, 1934. Expenditure during 1934, \$132,217.57.

Ashby-Fitchburg

July 10, 1934, contract made with The Fitchburg Concrete Construction Company, of Fitchburg, for reconstructing about 9,940 feet of State highway on Fitchburg Road in Ashby, and about 13,402 feet of State highway on the Ashby Road in Fitchburg, the surface consisting of bituminous macadam. The proposal amounted to \$148,732.60. Work about five-sevenths completed. Expenditure during 1934, \$107,224.14.

Fall-River-Somerset

July 11, 1934, contract made with the National Roofing Company, of Fall River, for cleaning and painting the Brightman Street Bridge. The proposal amounted to \$3,900.00. Work completed November 27, 1934. Expenditure during 1934, \$3,946.55.

Charlemont

July 17, 1934, contract made with Kelleher Corporation, of Montague, for reconstructing 48,148 feet of State highway on the Mohawk Trail in Charlemont, the surface consisting of bituminous macadam. The proposal amounted to \$441,701.00. Work about one-fourth completed. Expenditure during 1934, \$113,095.88.

Braintree-Randolph

September 11, 1934, contract made with the State Construction Co., Inc., of Boston, for constructing a reinforced concrete slab bridge over Farm Brook in Braintree, a rolled steel stringer bridge with reinforced concrete floor over the New York, New Haven & Hartford Railroad in Randolph, about 7,965 feet of State highway on Pond and Granite Streets in Braintree, and about 11,775 feet of State highway on North Street in Randolph, the surface except over the railroad bridge consisting of bituminous macadam, and the surface over the railroad bridge consisting of bituminous concrete. The proposal amounted to \$160,535.70. Work about one-fourth completed. Expenditure during 1934, \$39,610.30.

Blandford-Russell

September 18, 1934, contract made with The Arborio Road Construction Company, Incorporated, of Windsor, Conn., for reconstructing about 2,824 feet of State highway on North Street in Blandford, and about 15,950 feet of State highway on Blandford Road in Russell, the surface consisting of bituminous macadam. The proposal amounted to \$93,584.95. Work about one-third completed. Expenditure during 1934, \$28,750.02.

Brookline

October 2, 1934, contract made with Simpson Bros. Corporation, of Boston, for constructing about 4,213 feet of State highway on Boylston Street in Brookline, the surface consisting of bituminous concrete. The proposal amounted to \$24,133.80. Work practically completed. Expenditure during 1934, \$13,025.88.

Worcester

October 2, 1934, contract made with Coleman Bros. Corporation, of Boston, for constructing a through steel plate girder bridge over the Boston & Albany Railroad and the approaches thereto on the State highway in Worcester known as Cambridge Street, the surface consisting of bituminous concrete and bituminous macadam. The proposal amounted to \$100,307.20. Work just commenced. Expenditure during 1934, \$7,579.05.

Dennis-Yarmouth

November 13, 1934, contract made with New England Foundation Company, Incorporated, of Boston, for constructing a reinforced concrete pile bridge and the approaches thereto on Bridge Street in Yarmouth and Main Street in Dennis, the surface consisting of bituminous concrete. The proposal amounted to \$156,807.40. Work not yet commenced.

Charlton-Sturbridge-East Brookfield

November 13, 1934, contract made with Alfred L. Perini, of Framingham, for constructing about 6,645 feet of State highway on Podunk Road in Charlton, 2,793 feet of State highway on the same road in Sturbridge, and 21,353 feet of State highway on the same road in East Brookfield, the surface consisting of gravel. The proposal amounted to \$43,623.15. Work not yet commenced.

Bourne

November 27, 1934, contract made with Eastern Contracting Company, of Quincy, for constructing about 7,970 feet of State highway on new location in Bourne, the surface consisting of bituminous macadam and bituminous concrete. The proposal amounted to \$77,647.70. Work not yet commenced.

Bourne-Wareham

November 27, 1934, contract made with Eastern Contracting Company, of Quincy, for reconstructing about 7,167 feet of State highway on Buzzards Bay Road in Bourne and Wareham, the surface consisting of bituminous macadam. The proposal amounted to \$67,999.70. Work not yet commenced.

EXPENDITURES FOR THE CONSTRUCTION OF STATE HIGHWAYS

The expenditures for the construction of State highways in various Counties during the years were: —

Barnstable . . .	\$85,731.52	Middlesex . . .	\$705,091.94
Berkshire . . .	172,619.06	Norfolk . . .	871,217.85
Bristol . . .	191,968.98	Plymouth . . .	171,518.72
Essex . . .	612,284.56	Suffolk . . .	1,530,963.25
Franklin . . .	1,061.16	Worcester . . .	26,308.14
Hampden . . .	1,481.17		
Hampshire . . .	110,065.72		
			<hr/>
			\$4,480,312.07
		Hull . . .	12,456.50
			<hr/>
		Total	\$4,492,768.57

Details of the foregoing expenditures follow: —

Barnstable County: — Barnstable, \$18,513.32; Bourne, \$62,649.32; Yarmouth, \$4,568.88.

Berkshire County: — Great Barrington, \$368.28; North Adams, \$67,040.96; Otis, \$105,033.34; Pittsfield, \$55.19; Richmond, \$114.24; Williamstown, \$7.05.

Bristol County: — Fairhaven, \$105,635.95; Raynham, \$27,847.68; Taunton, \$58,485.35.

Essex County: — Amesbury, \$10,863.82; Newburyport, \$594,227.60; North Andover, \$2,224.92; Salisbury, \$4,968.22.

Franklin County: — Charlemont, \$188.44; Deerfield, \$436.36; Greenfield, \$436.36.

Hampden County: — Chester, \$1,481.17.

Hampshire County: — Granby, \$182.17; Huntington, \$109,883.55.

Middlesex County:—Arlington, \$394,804.44; Ashby, \$1.90; Belmont, \$56,-400.66; Cambridge, \$90,814.45; Concord, \$797.68; Lincoln, \$12,208.44; Newton, \$150,064.37.

Norfolk County:—Brookline, \$221,643.02; Cohasset, \$39,204.66; Dedham, \$119,792.80; Norwood, \$47,293.88; Quincy, \$33.04; Stoughton, \$47,588.04; Wellesley, \$350,730.91; Westwood, \$44,898.46; Weymouth, \$33.04.

Plymouth County:—Hingham, \$53,230.96; Lakeville, \$7,345.93; Marshfield, \$20,947.70; Middleboro, \$10,815.14; Scituate, \$79,147.63; Wareham, \$31.36.

Suffolk County:—Boston, \$658,758.94; Revere, \$872,204.31.

Worcester County:—Oxford, \$6,467.53; Webster, \$8,062.97; West Boylston, \$2,478.95; Worcester, \$9,298.69.

EXPENDITURES UNDER THE PROVISIONS OF CHAPTER 122, ACTS OF 1931 For State Highway Construction

Auburn-Worcester	\$110.21	Northboro-Shrewsbury	\$1,450.00
Erving	4,049.80	Sharon-Norwood-Walpole	681.25
Foxboro-Walpole-Sharon	3,112.99	Uxbridge	1,733.97
Framingham-Natick	39,202.29	Williamstown	900.00
Framingham-Southboro	10,022.53	Worcester-Millbury	638.40
Gill-Greenfield	9,857.63	Worcester-Shrewsbury	4,480.70
			Total \$76,239.77

MAINTENANCE AND REPAIR OF STATE HIGHWAYS (Section 13, Chapter 81, General Laws)

The expenditure under this classification covers two different types of work.
1. The ordinary maintenance work, such as, patching and surface treatment of surfaces, repairs to structures and other miscellaneous work in connection with the ordinary care and operation of the highways. 2. The reconstruction of worn-out surfaces or narrow roads with poor alignment.

The expenditures during the year in various counties were:—

Barnstable	\$85,120.86	Hampshire	\$76,755.12
Berkshire	323,895.22	Middlesex	536,925.39
Bristol	309,598.32	Nantucket	161.75
Dukes	10,944.11	Norfolk	262,712.43
Essex	250,847.29	Plymouth	338,397.09
Franklin	272,263.37	Suffolk	87,826.06
Hampden	377,478.34	Worcester	944,217.57
			Total \$3,877,142.92

Details of the foregoing expenditures follow:—

Barnstable County.—Barnstable, \$16,717.45; Bourne, \$9,958.18; Brewster, \$2,447.86; Chatham, \$2,053.95; Dennis, \$8,469.94; Eastham, \$1,848.44; Falmouth, \$5,118.61; Harwich, \$1,519.25; Mashpee, \$1,397.63; Orleans, \$3,208.31; Provincetown, \$9,228.72; Sandwich, \$4,921.23; Truro, \$2,957.94; Wellfleet, \$2,482.80; Yarmouth, \$12,790.55.

Berkshire County.—Adams, \$543.78; Becket, \$10,890.82; Cheshire \$3,586.00; Clarksburg, \$2,176.58; Dalton, \$7,652.29; Egremont, \$4,363.39; Florida, \$6,002.55; Great Barrington, \$9,704.77; Hancock, \$5,323.19; Hinsdale, \$2,504.94; Lanesboro, \$8,411.29; Lee, \$18,482.80; Lenox, \$7,148.78; New Ashford, \$1,-156.64; New Marlboro, \$92.80; No. Adams, \$129,747.19; Otis, \$2,770.15; Pittsfield, \$42,672.49; Richmond, \$1,840.30; Sandisfield, \$2,367.51; Savoy, \$537.64; Sheffield, \$5,253.62; Stockbridge, \$21,564.16; Washington, \$1,342.53; West Stockbridge, \$202.66; Williamstown, \$20,519.00; Windsor, \$7,037.35.

Bristol County.—Acushnet, \$7,977.92; Attleboro, \$6,742.26; Berkley, \$2,-869.17; Dartmouth, \$2,476.16; Dighton, \$9,336.71; Easton, \$110,075.15; Fairhaven, \$16,121.05; Fall River, \$15.59; Freetown, \$1,995.53; Mansfield, \$4,758.52; Norton, \$6,533.89; North Attleborough, \$3,733.80; Raynham, \$19,414.94; Rehoboth, \$3,095.64; Seekonk, \$9,327.74; Somerset, \$71,341.71; Swansea, \$8,540.23; Taunton, \$21,502.75; Westport, \$3,739.56.

Dukes County.—Chilmark, \$2,445.21; Edgartown, \$3,413.24; Gay Head, \$692.49; Oak Bluffs, \$357.31; Tisbury, \$707.26; West Tisbury, \$3,328.60.

Essex County.—Amesbury, \$4,659.25; Andover, \$14,624.92; Beverly, \$6,-447.97; Danvers, \$15,331.70; Essex, \$4,960.77; Gloucester, \$15,840.73; Groveland, \$926.66; Hamilton, \$9,488.34; Haverhill, \$2,966.25; Ipswich, \$21,059.95; Lawrence, \$665.28; Lynn, \$8,372.71; Lynnfield, \$4,097.82; Manchester, \$7.36; Merrimac, \$2,166.17; Methuen, \$4,357.91; Middleton, \$11,010.00; Newbury, \$33,819.91; Newburyport, \$3,925.78; North Andover, \$16,798.34; Peabody, \$8,-458.76; Rockport, \$998.59; Rowley, \$8,419.41; Salem, \$7,165.63; Salisbury, \$10,-852.68; Saugus, \$9,762.81; Swampscott, \$5,064.28; Topsfield, \$4,266.78; Wenham, \$2,559.08; West Newbury, \$11,771.45.

Franklin County.—Ashfield, \$2,167.24; Bernardston, \$4,646.14; Buckland, \$5,945.22; Charlemont, \$4,765.50; Colrain, \$2,060.85; Conway, \$150,192.48; Deerfield, \$61,995.16; Erving, \$6,145.57; Gill, \$1,216.84; Greenfield, \$6,590.78; Montague, \$9,079.78; Northfield, \$3,994.77; Orange, \$1,838.07; Shelburne, \$5,-180.51; Sunderland, \$2,851.18; Whately, \$3,593.28.

Hampden County.—Agawam, \$12,579.12; Blandford, \$1,507.76; Brimfield, \$6,402.90; Chester, \$46,156.42; Chicopee, \$4,566.74; East Longmeadow, \$1,354.14; Holland, \$80.83; Holyoke, \$3,097.81; Monson, \$1,735.87; Palmer, \$11,270.96; Russell, \$7,959.11; Southwick, \$4,198.36; Springfield, \$251,937.35; Tolland, \$51.67; Wales, \$3,282.55; Westfield, \$6,724.70. West Springfield, \$3,754.74; Wilbraham, \$10,817.31.

Hampshire County.—Amherst, \$5,301.54; Belchertown, \$3,581.21; Cummington, \$10,092.16; Easthampton, \$1,588.40; Goshen, \$2,225.51; Granby, \$3,562.15; Hadley, \$4,370.10; Hatfield, \$2,900.31; Huntington, \$6,478.08; Northampton, \$7,511.38; Southampton, \$1,985.42; South Hadley, \$13,320.67; Ware, \$9,360.77; Williamsburg, \$1,575.93; Worthington, \$2,901.49.

Middlesex County.—Acton, \$5,952.96; Arlington, \$1,782.01; Ashby, \$82,-375.14; Ashland, \$4,265.79; Ayer, \$681.36; Bedford, \$279.44; Billerica, \$13,976.44; Boxboro, \$884.07; Burlington, \$39,015.04; Chelmsford, \$5,794.83; Concord, \$8,-872.32; Dracut, \$12,606.63; Framingham, \$12,802.10; Groton, \$2,658.45; Holliston, \$2,041.59; Hudson, \$1,652.64; Lexington, \$5,465.03; Lincoln, \$2,671.38; Littleton, \$19,797.45; Lowell, \$1,473.27; Malden, \$27.89; Marlborough, \$28,-419.93; Medford, \$215.09; Melrose, \$267.10; Natick, \$6,462.97; Newton, \$17,-478.05; No. Reading, \$1,508.13; Pepperell, \$1,634.52; Reading, \$3,134.99; Shirley, \$7,347.85; Somerville, \$412.73; Stoneham, \$1,391.01; Sudbury, \$5,678.16; Tewksbury, \$7,314.53; Townsend, \$108,359.96; Tyngsboro, \$4,081.79; Waltham, \$3,182.61; Watertown, \$920.31; Wayland, \$8,581.00; Westford, \$7,750.40; Weston, \$4,764.48; Wilmington, \$2,455.12; Winchester, \$49,636.89; Woburn, \$40,851.94.

Nantucket County.—Nantucket, \$161.75.

Norfolk County.—Avon, \$654.00; Bellingham, \$595.70; Braintree, \$13,443.94; Brookline, \$113.48; Canton, \$8,379.79; Cohasset, \$1,654.21; Dedham, \$14,401.88; Dover, \$2,342.73; Foxborough, \$4,636.20; Franklin, \$1,449.69; Holbrook, \$9,081.20; Milton, \$11,428.94; Needham, \$14,676.04; Norfolk, \$187.11; Norwood, \$6,478.47; Plainville, \$3,895.32; Quincy, \$1,010.57; Randolph, \$3,019.22; Sharon, \$684.24; Stoughton, \$115,084.61; Walpole, \$4,017.04; Wellesley, \$14,535.67; Westwood, \$6,711.53; Weymouth, \$16,958.46; Wrentham, \$7,272.39.

Plymouth County.—Abington, \$3,122.02; Bridgewater, \$5,247.12; Brockton, \$9,956.46; Duxbury, \$2,796.73; East Bridgewater, \$568.31; Hanover, \$2,575.16; Hingham, \$7,979.36; Hull, \$3,030.42; Kingston, \$1,721.23; Lakeville, \$10,542.08; Marion, \$3,308.86; Marshfield, \$12,816.11; Mattapoisett, \$68,161.37; Middleborough, \$11,664.16; Norwell, \$1,305.54; Pembroke, \$1,564.04; Plymouth, \$6,076.65; Rochester, \$1,577.31; Rockland, \$1,309.13; Scituate, \$117,343.00; Wareham, \$62,889.48; West Bridgewater, \$1,328.52; Whitman, \$1,514.03.

Suffolk County.—Boston, \$38,429.69; Chelsea, \$625.33; Revere, \$48,771.04.

Worcester County.—Ashburnham, \$5,613.03; Athol, \$5,588.81; Auburn, \$151,-415.70; Barre, \$6,390.58; Blackstone, \$3,565.40; Brookfield, \$1,165.20; Charlton, \$145,376.56; Douglas, \$669.71; Dudley, \$6,506.87; East Brookfield, \$1,866.08; Fitchburg, \$2,265.21; Gardner, \$2,278.05; Grafton, \$4,650.16; Hardwick, \$701.92; Harvard, \$3,711.54; Holden, \$10,397.29; Hopedale, \$1,916.81; Lancaster, \$2,-

077.93; Leicester, \$15,137.75; Leominster, \$854.17; Lunenburg, \$3,650.47; Mendon, \$887.25; Milford, \$1,549.93; Millbury, \$10,566.07; Millville, \$4,893.60; New Braintree, \$155.03; North Brookfield, \$599.29; Northborough, \$10,170.48; Northbridge, \$2,670.45; Oakham, \$8,645.17; Oxford, \$55,083.87; Paxton, \$5,697.93; Petersham, \$6,245.85; Phillipston, \$1,654.52; Princeton, \$778.49; Rutland, \$9,735.49; Shrewsbury, \$12,930.27; Southborough, \$7,623.71; Southbridge, \$1,422.60; Spencer, \$1,934.11; Sterling, \$161,099.43; Sturbridge, \$3,760.03; Sutton, \$4,398.57; Templeton, \$85,972.01; Upton, \$2,220.96; Uxbridge, \$10,395.36; Warren, \$3,585.15; Webster, \$3,343.67; West Boylston, \$123,021.82; West Brookfield, \$1,248.38; Westborough, \$7,463.07; Westminster, \$7,112.35; Winchendon, \$2,417.30; Worcester, \$9,136.12.

Miscellaneous expenditures are as follows: —

Truck repairs	\$8,716.80	
Truck operation	36,057.32	
Truck plow repairs	46,149.34	
Tractor repairs	5,898.34	
Tractor operation	35,559.07	
Tractor plow repairs	39,628.62	
Snow fence	2,872.95	
Expenditures under towns	741,819.42	
		\$916,701.86
Warning signs	\$14,867.16	
Direction signs	51,970.70	
Regulatory signs	363.51	
Control signals	39,334.29	
Traffic survey	20,855.40	
Traffic permits	1,281.11	
		128,672.17
Somerset Bridge	\$30,038.15	
Newburyport Bridge	5,220.12	
Fairhaven-New Bedford Bridge	19,625.75	
Quincy-Weymouth Bridge	5,048.37	
		59,932.39
Detour bulletins		2,285.15
Geodetic survey		1,188.02
Total of miscellaneous expenditures		\$1,108,779.59

REMOVAL OF SNOW AND ICE FROM STATE HIGHWAYS AND CERTAIN TOWN ROADS

The authority of the Department relative to the removal of snow and ice from State highways has been provided by section 19, chapter 81, General Laws, as amended.

The co-operation of the Department with officers of cities, towns and counties, in keeping open and reasonably passable for vehicles during the winter months such highways as may be selected by the Department is provided for in section 11, chapter 84, General Laws, as amended.

In accordance with the provisions of these laws, the Department selected 1,810 miles of highways on the principal routes of travel, 1,642 miles of which are State highways and 168 miles town highways.

The work of snow removal on these routes is performed in a large part by the trucks and tractors owned and operated by the Department, but certain towns and cities, by agreement with the Department, perform part of the work of snow removal on the portions of the routes within their limits. All of this work is done under the direction and supervision of the Department.

The expenditures by the Department for snow removal during the year under the provisions of both the above-mentioned laws, amounted to a total of \$916,701.86, which includes the cost of maintenance and repair of the equipment, actual cost of plowing and purchase of materials, such as calcium chloride and sand for use on icy conditions of the road surfaces, also the purchase of such equipment as is used entirely for snow removal work.

UNIFORM TRAFFIC SIGNS, LIGHTS, MARKINGS, SIGNAL SYSTEMS AND REGULATIONS

Authority and jurisdiction relating to the erection of traffic signs, lights, marking, signal systems and regulations on highways within the Commonwealth, was placed in the Department of Public Works by chapter 257 of the Acts of 1928. The Department is thereby enabled to insure that all traffic control signals to be erected by the municipalities shall conform to standards adopted by the Department and co-operates with the cities and towns for the purpose of properly locating and operating such signals. All through ways desired by the municipalities must first be approved by the Department before such may become effective.

In order to secure uniformity in the matter of traffic control, the Department has issued four bulletins which present the standards required to be met by the cities and towns of the State for the installation and maintenance of traffic signs, signals and devices and traffic regulations for the control of traffic.

TRAFFIC CONTROL SIGNALS AND REGULATIONS APPROVED

During the year the Department has issued permits to cities and towns for the following traffic control features:

	In 1934	Previously	Total to date
Traffic signals, at intersections	37	817	854
Traffic beacons	3	223	226
Through ways	2	108	110
Traffic signs and markings	17	223	240
Traffic rules and regulations	55	350	405
Isolated stop signs	80	202	282

DIRECTION SIGNS, ROUTE MARKERS, WARNING SIGNS AND TRAFFIC CONTROL SIGNALS ERECTED BY DEPARTMENT

The Department has given a great deal of study to the determination of the important routes of travel for the purpose of marking and furnishing direction signs as aids for traveling.

The placing of route numbers and direction signs at points of advantage on these designated highways is done by the Department both on State highways and on city and town ways, permission for the latter being obtained from the local authorities. Warning signs and traffic control signals which are erected and maintained by the Department are placed only on State highways.

At locations where the hazard was particularly great, and where traffic signals could not be used, neon tubes forming the legend were erected. This type of sign is especially advantageous on foggy nights, since it has greater penetrating power than any light or reflector unit.

The manufacture of many of these signs and the erection and maintenance of all of these signs and signals are part of the highway maintenance activities.

During the year the following signs were delivered to the districts:

	In 1934	Previously	Total
Warning signs	2,681	8,539	11,220
Regulatory signs	722	3,989	4,711
Directional signs	1,466	4,582	6,048
Route markers	5,526	22,822	28,348
Signals	27	86	113

TRAFFIC ACCIDENT STUDIES

Accident statistics for the year 1933 were completed, showing detailed information relating to accidents on all numbered and unnumbered State highway routes.

Studies were made at numerous intersections and at other places along the highways of hazardous conditions, as evidenced by the number and type of accidents occurring at these places. These studies were used in connection with further investigations for the correction of hazardous conditions.

Other general studies of larger scope were either started or completed. Among these were studies on the Southwest Connection, Route No. 3 in Braintree, and

Route No. 6 from Orleans to Provincetown, as well as general studies on fog conditions, illumination of rural highways, and studies comparing various types and widths of roads.

ROADSIDE MAINTENANCE AND DEVELOPMENT

Roadside maintenance as related to the care and planting of trees and other growth on the areas within the highway layouts and adjacent to the traveled surface of State highways has been one of the activities of this Department for over thirty-eight years. This work has been developed more rapidly during recent years because it has become recognized that systematic and intelligent control and development of all features of the roadside conditions are of value not only from the point of view of attractiveness in appearance but as a safety factor as well.

Specially trained men under competent supervision are employed to do this work, which not only includes the removal and trimming of trees, brush, and other undesirable growth, but also the selection and planting of new trees, shrubs and vines suitable for the various locations where such planting is desired. Trimming at curves and intersections along the highway insure safe operating conditions for motor vehicles, and the clearing of unnecessary growth and special trimming at particular points, afford attractive vistas at scenic locations.

A group of inspectors is maintained to supervise the trimming of trees that may be necessary during the construction of light and power transmission lines, as well as the yearly trimming for clearance of wires.

A nursery is maintained at Sudbury where a large proportion of the trees and shrubs are grown for use on State highways under the control of the Department.

During the year 5,024 trees were planted, making a total for the past thirty years of 69,400 trees planted; and this year 9,765 shrubs have been planted throughout the State; in addition, 7,041 small pines have been planted on bare slopes and ragged cuts.

A large number of men have been employed for a period of approximately three months on roadside improvement work, such as cutting undesirable growth, trimming and pruning trees, grading and seeding unsightly slopes and other miscellaneous work, to improve the æsthetic value of our roadsides.

In addition to the work carried on under the regular maintenance appropriations of the Department, there was made available from funds of the Federal Government, the sum of approximately \$33,000, which was used to improve the roadsides along newly constructed highways in Newton, Wellesley, Natick, Framingham, Canton, Dedham, Westwood, Needham, Stockbridge and Lee. As the trees and plants used in these cases, as well as those in which State funds were used, were necessarily small, their value will be increased as time goes on, and in the course of a few years will cause these highways to make a very much improved appearance.

SIDEWALK CONSTRUCTION ON STATE HIGHWAYS

Under Chapter 439 of the Acts of 1931, the Department constructed sidewalks as follows:

Hingham	.	.	.	.	4,300 feet
Brimfield	.	.	.	.	2,200 "
Athol	.	.	.	.	7,000 "

In each case the town in which these sidewalks are located agreed to maintain the sidewalk.

FEDERAL AID IN CONSTRUCTING HIGHWAYS

Statements as to the acts of Congress and of the Massachusetts Legislature with respect to co-operation between the United States and the states in the construction and maintenance of highways, including the Federal Highway Act approved November 9, 1921, may be found in the annual reports of this Department for the years 1920-1927, inc.

A detail statement of Federal Aid allotments and projects for Massachusetts appears in the Department of Public Works Report for the fiscal year 1933. Additions or alterations for the fiscal year 1934 and a summary of the several allotments to date appear as follows:

Total amount of Regular Federal Aid allotted for the period from June 30, 1916, to June 30, 1933—\$18,523,440.00.

In addition to the above, allotments as follows were made:

1931 "Federal Emergency Advance Funds"	\$1,141,460.00
1932 "Federal Emergency Relief and Construction Act"	1,716,612.00
1933 "National Recovery Funds"	6,597,100.00
1934 "Hayden-Cartwright Bill" (Act of June 18, 1934)	3,350,474.00

The total amount allotted to Massachusetts from 1916 to November 30, 1934, is \$31,329,086.00. This embraces all types of Federal Aid, including the entire amount allotted under the "Hayden-Cartwright Bill."

There were 24 projects prepared in addition to those shown in the report of the Department of Public Works for 1933. The length of the various Federal Aid Road and Bridge Projects in this State, from the commencement of work of this character to November 30, 1934, inclusive, is 1,035.892 miles, an increase of 19.877 miles over 1933. In addition to this there were 26.621 miles of landscaping projects of which 19.796 miles were on old Federal projects and 6.825 miles were on new Federal projects. The total length of Federal Aid projects, including new Landscaping projects, is 1,042.717 miles, and this length divided according to the various counties is as follows:

Barnstable, 99.820 miles	Hampden, 56.731 miles
Berkshire, 127.571 miles	Hampshire, 54.300 miles
Bristol, 87.219 miles	Middlesex, 104.844 miles
Dukes, 3.117 miles	Norfolk, 88.351 miles
Essex, 81.776 miles	Plymouth, 108.179 miles
Franklin, 48.691 miles	Suffolk, 4.290 miles
Worcester, 176.829 miles	

STATEMENT OF ACTIVE FEDERAL AID PROJECTS FOR THE FISCAL YEAR ENDING NOVEMBER 30, 1934

The following "E" Projects were financed in part from regular Federal Aid and the balance (\$1,716,612) from the Federal Emergency Relief and Construction Act of 1932.

Project Number	City or Town	Miles	Amount of Federal Funds Allotted	Amount of Federal Funds Received
E-12	Ipswich	2.081	\$43,939 83	\$43,939 83
E-21A	Hancock-Pittsfield	2.773	126,866 39	126,866 39
E-21B	Hancock	1.098	72,965 98	72,965 98
E-122F	Barnstable-Yarmouth	2.395	81,462 14	81,462 14
E-134D	Oakham-Rutland	3.493	64,528 59	60,604 79
E-170A	Cohasset-Hingham	3.151	259,311 89	254,433 84
E-170B	Cohasset-Scituate	5.808	199,194 29	157,929 33
E-177D	Yarmouth	4.818	111,138 24	111,138 24
E-211D	Wellesley (West)	2.272	243,119 63	243,119 63
E-211E	Wellesley (Center)	1.108	382,096 18	382,096 18
E-235A	Wellesley (East)	1.360	126,952 50	126,952 50
E-236	Lakeville-Middleboro-Raynham-Taunton	6.344	221,797 81	219,779 15
E-237A	Oxford-Webster	3.375	129,299 97	129,299 97
E-238B	Belchertown	2.812	54,212 10	54,212 10
Totals, "Emergency Projects"		42.888	\$2,116,885 54	\$2,064,800 07

The following projects were financed from Regular Federal Aid:

R-106	Bourne-Falmouth	6.458	\$78,876 03	\$78,876 03
211C	Framingham-Natick	4.061	100,200 00	100,200 00
218	Canton-Dedham-Westwood	3.947	177,698 65	177,698 65
226C	Shrewsbury-Worcester	3.015	86,713 23	86,713 23
229A	Dedham-Westwood-Needham	3.448	96,488 72	96,488 72
229B	Needham-Wellesley	3.653	93,783 11	93,783 11
231B	Dedham-Westwood-Norwood	3.566	150,074 96	150,074 96
Totals		28.148	\$783,834 70	\$783,834 70

The following "NR Projects" were financed from National Recovery Funds and regular Federal Aid Funds released from completed projects:

NRH-56	Stoughton	2.188	\$117,194 77	\$97,760 24
NRH-57	Winchester	1.031	25,346 42	16,654 20
NRM-57	Woburn	1.995	28,240 19	22,682 70
NRH-57B	Winchester	0.885	29,680 86	21,807 90

Project Number	City or Town	Miles	Amount of Federal Funds Allotted	Amount of Federal Funds Received
NRH-78	Burlington	3.760	\$45,171 06	\$37,331 30
NRH-89A	Easton	1.553	40,558 82	33,802 95
NRH-89C	Easton	1.392	40,851 25	29,291 90
NRM-126A	Newburyport	1.361	571,735 46	319,207 29
NRM-130B	Auburn	0.443	103,192 87	87,148 83
NRM-131C	Springfield (Force Act)	3.426	190,947 61	165,988 87
NRH-138B	Chester	0.307	52,686 97	22,896 00
NRH-143B	Fairhaven	0.726	64,430 41	54,454 35
NRM-170C	Quincy-Weymouth (Contract 1, 2, 3)	0.521	1,883,586 65	612,235 66
NRH-172B	Sterling-West Boylston	4.337	192,781 43	173,927 55
NRH-173C	Lanesboro	0.347	17,983 98	17,983 98
NRM-173D	Pittsfield	1.462	53,896 49	53,896 49
NRH-174B	Scituate-Marshfield	1.168	150,757 25	121,745 19
NRH-184A	Charlton	2.848	67,983 41	55,028 50
NRH-184C	Charlton-Oxford	2.609	48,936 52	36,982 00
NRH-188F	Ashby-Townsend	4.023	133,967 50	118,133 80
NRH-189E	Mattapoisett (Force Act)	1.583	69,419 79	60,482 43
NRH-189F	Wareham	1.556	57,224 03	54,650 30
NRH-194B	Templeton	3.002	72,439 89	63,354 50
NRH-199C	Newbury	3.047	90,975 44	90,975 44
NRM-235B	Brookline-Newton	1.089	210,478 94	184,895 94
NRH-240B	West Boylston	0.594	15,630 28	0 00
NRM-241A	East Boston-Revere	2.294	713,586 36	591,768 50
NRM-241B	Revere	1.044	250,293 28	130,693 30
NRM-242A	Arlington-Belmont-Cambridge	1.557	597,218 35	462,840 08
NRH-243A	Amesbury	0.795	39,727 33	33,693 52
NRM-244A	Boston (Hyde Park)	0.296	37,934 71	27,993 23
NRS-245A	Huntington	5.313	141,633 69	122,644 75
NRS-246	Conway-Deerfield	6.193	225,494 28	165,114 40
NRS-247	Otis	3.726	102,613 44	93,245 10
NRM-248A	North Adams	0.813	176,360 52	135,730 98
NRM-249	Worcester	0.197	104,345 23	0 00
Totals		69.481	\$6,765,305 48	\$4,317,042 17

The following Landscaping Projects (Roadside Improvement) were financed according to the prefix letter classification:

Project Number	City or Town	Miles	Amount of Federal Funds Involved
NRH-211C	Framingham-Natick	4.008	\$3,054 85
NRH-211D	Wellesley (West)	2.272	2,070 64
NRH-211E	Wellesley (Center)	1.108	1,886 84
NRH-211F	Framingham-Natick	1.595	1,579 11
218	Canton-Dedham-Westwood	3.947	8,182 41
229A	Dedham-Westwood-Needham	3.448	2,674 87
229B	Needham-Wellesley	3.653	5,965 89
NRH-234A	Lee-Stockbridge	2.010	4,234 25
NRH-235A	Wellesley (East)	1.360	3,703 97
NRH-235C	Wellesley (East)	0.463	510 13
NRM-235D	Newton	2.757	5,562 67
Totals		26.621	\$39,425 43

The following Traffic Signal Installation Projects were financed from National Recovery Funds:

NRM-126A	Newburyport	\$640 47
NRM-130B	Auburn	2,190 99
NRM-241B	Revere	1,639 04
Totals		\$4,470 50

The following "1935" Projects are financed under the provisions of the Act of June 18, 1934 (Hayden-Cartwright Bill) and will take up the \$3,350,474 allotted to Massachusetts:

NRM-91 (1935)	Lowell	0.968	\$52,248 24
NRH-125C (1935)	Bourne-Wareham	1.417	82,139 67
			(Roadway Portion)
NRH-176B (1935)	Bourne	1.509	85,632 47
NRH-250 (1935)	Dracut-Methuen	5.974	262,438 99
NRH-251A (1935)	Dedham	1.043	210,346 34
NRM-251B (1935)	Boston	0.656	117,675 53
Total (Obligated)		11.567	\$810,481 24

Other "1935" Projects to which funds have not yet been allotted:

NRM-69 Rev. (1935)	Haverhill	0.8	\$55,000 00 Est.
NRH-73 (1935)	Southwick	6.874	166,019 53 "
NRH-125C (1935)	Bourne-Wareham (Bridge Portion)		68,478 30 "
NRH-134E (1935)	Rutland	0.833	21,315 25 "
NRM-155C (1935)	Westfield	0.677	54,864 97 "
NRH-173E (1935)	Cheshire	2.200	175,812 01 "
NRM-208C (1935)	Waltham	0.284	224,838 52 "

Project Number	City or Town	Miles	Amount of Federal Funds Involved
NRS-247 Rev. (1935)	Otis-Blandford	3.508	\$65,966 39 Est.
NRS-252 (1935)	Blandford	1.953	49,403 20 "
NRS-253 (1935)	Billerica-Chelmsford	2.6	120,000 00 "
NRS-254 (1935)	Athol-Orange	2.96	225,000 00 "
NRS-255 (1935)	Andover	4.74	190,000 00 "
	Millbury	2.1	255,000 00 "
	Boston-Brookline	0.1	290,000 00 "
	Montague	4.5	250,000 00 "
	Miscellaneous Landscaping		33,600 00 "
Total (Estimated)		34.129	\$2,245,298 17 Est.

Summary of New Federal Projects Active in 1934. (Not supplemental to foregoing lists.)

Project Number	Name	Miles	Federal Funds Involved	Code Explanation
NRM-91 (1935)	Lowell	0.968	\$52,248 24	A.
NRH-125C (1935)	Bourne-Wareham	1.417	82,139 67	A. E.
NRM-126A	Newburyport	1.361	572,375 93	A. B.
NRM-130B	Auburn	0.443	105,383 86	A. B.
NRH-143B	Fairhaven	0.726	64,430 41	A.
NRH-176B (1935)	Bourne	1.509	85,632 47	A.
NRH-211C	Framingham-Natick	4.008	3,054 85	D.
NRH-211D	Wellesley (West)	2.272	2,070 64	D.
NRH-211E	Wellesley (Center)	1.108	1,886 84	D.
NRH-211F	Framingham-Natick	1.595	1,579 11	C.
218	Canton-Dedham-Westwood	3.947	8,182 41	D.
229A	Dedham-Westwood-Needham	3.448	2,674 87	D.
229B	Needham-Wellesley	3.653	5,965 89	D.
NRH-234A	Lee-Stockbridge	2.010	4,234 25	C.
NRH-235A	Wellesley (East)	1.360	3,703 97	D.
NRM-235C	Wellesley (East)	0.463	510 13	C.
NRM-235D	Newton	2.757	5,562 67	C.
NRM-241B	Revere	1.044	251,932 32	A. B.
NRS-247	Otis	3.726	102,613 44	A.
NRM-248A	North Adams	0.813	176,360 52	A.
NRM-249	Worcester	0.197	104,345 23	A.
NRH-250 (1935)	Dracut-Methuen	5.974	262,438 99	A.
NRH-251A (1935)	Dedham	1.043	210,346 34	A.
NRM-251B (1935)	Boston	0.656	117,675 53	A.
Totals		46.498	\$2,227,348 58	

Code reference:—A—Highway Project. B—Includes Traffic Signals. C—Landscaping (new F. A. Project). D—Landscaping (old F. A. Project.) E—Bridge portion excluded.
Note:—This 46.498 miles includes 19.796 miles of Landscaping on Old Federal projects. The net increase in length of Federal Aid Projects is 26.702.

EMERGENCY PUBLIC WORKS CONSTRUCTION
(Chapter 365, Acts of 1933)

R 1	Lynn-Revere	\$351,187 36
R 4	Agawam	34,329 05
R 5-1	Arlington-Belmont-Lexington	281,568 62
R 5-2	Lexington-Lincoln	461,863 29
R 5-3	Lexington	34,426 78
R 6	Ashland-Holliston	27,514 90
R 7	Quincy-Braintree	15 33
R 8	Brookline	193,306 99
R 12	Lawrence-North Andover	41,922 14
R 13	Otis	331 46
R 14	Palmer	83,265 00
R 16	Revere (North Shore Road)	183,309 36
R 17	Saugus	15,415 38
R 18	Ware	38,493 84
R 20	Winchendon	12,985 02
R 22	Blandford-Russell	30,358 35
R 26	Charlemont	119,763 74
R 27	Charlton-Sturbridge	113,525 10
R 29-1	Concord-Lincoln	223,330 08
R 29-2	Concord By-Pass	222,833 69
R 32	Easton-Raynham-Taunton	191,760 24
R 33	Fitchburg-Ashby	112,985 61
R 34	Essex-Gloucester	176,985 95
R 35	Great Barrington	25,760 26
R 38	Northampton-Hatfield	139,298 41
R 39	Revere (Bridge)	376 10
R 40	Richmond	56,029 90
R 43	Sterling-Leominster	155,437 42
R 44	Brimfield-Sturbridge	180,507 25
R 46	Lowell-Tyngsboro	128,786 04
R 49	Charlton-East Brookfield	271 54
R 51	Randolph-Braintree	41,715 66
R 54	Yarmouth-Dennis	1,034 30
Total		\$3,680,694 16

BRIDGES

During the year the Department has prepared designs and plans for, and done other work relating to, bridges throughout the Commonwealth. The various cities and towns, the localities therein, the character of the structure and other details are as follows:

BRIDGES AND STRUCTURES BUILT OR CONTRACTED FOR
Cities and Towns, Locality and Character of Structure

- Auburn — Oxford Street over Kettle Brook; one 40-foot span, steel stringers with reinforced concrete floor.
- Auburn — Southbridge Street over tracks of New York, New Haven & Hartford Railroad; one 120-foot span, steel through girder with reinforced concrete floor.
- Auburn — Oxford Street over Canal; one 14-foot span, reinforced concrete slab.
- Bourne — Approach to new Bourne bridge over Cape Cod Canal; three 33-foot spans, and two 38-foot spans, reinforced concrete beam and slab, and one 57-foot span steel beams with reinforced concrete floor; total length 241 feet.
- Braintree — Granite Street over Farm Brook; one 14-foot span, reinforced concrete slab.
- Buckland — Smith Bridge over Clesson Brook; one 35-foot span, steel stringers with reinforced concrete floor.
- Concord — Concord Highway over tracks of Boston and Maine Railroad; four 31-foot spans, reinforced concrete beam and slab and one 40-foot span, steel stringers with reinforced concrete floor, total length 169 feet.
- Concord — Concord Highway over Sudbury River; one 84-foot span, reinforced concrete arch with stone facing.
- Concord — Concord Highway over tracks of Boston and Maine Railroad; four 21-foot spans, reinforced concrete beam and slab and one 38-foot span, steel stringers with reinforced concrete floor.
- Dennis — Main Street at Yarmouth line, over Bass River; thirty 18-foot spans, two 25-foot spans and one 35-foot span, reinforced concrete pile trestle with reinforced concrete floor, total length 625 feet.
- Dover — Bridge Street at Sherborn line, over Charles River; six 16-foot spans, timber pile bridge with reinforced concrete floor, total length 96 feet.
- Halifax — Thompson Street over Wenatuxet River; six 10-foot spans and one 14-foot span, timber pile bridge with reinforced concrete floor, total length 74 feet.
- Halifax — Thompson Street over Bartlett's Brook; four 10-foot spans and one 14-foot span, timber pile bridge with reinforced concrete floor, total length 54 feet.
- Holland — Pond Road over outlet of Holland Pond; one 43-foot span, steel stringers with reinforced concrete floor.
- Lextington — Concord Road over Waltham Street; one 60-foot span, reinforced concrete rigid frame bridge.
- Lynn — at Revere line, General Clarence R. Edwards Bridge over Saugus River; two 50-foot spans, eight 100-foot spans, two 106-foot spans and one 135-foot draw span with 100-foot clear opening, steel plate girder bridge on granite faced concrete piers; total length 1,247 feet.
- Newburyport — Traffic Road over Merrimac Street; two 32-foot spans and one 77-foot span, steel plate girders with reinforced concrete floor, and twelve 32-foot spans, reinforced concrete beam and slab; total length 531 feet.
- Newburyport — High Street over Traffic Road; one 57-foot span, steel rigid frame bridge with reinforced concrete floor, and retaining walls.
- Newburyport — Washington Street over Traffic Road; one 55-foot span, reinforced concrete rigid frame bridge and retaining walls.
- North Adams — Greylock Bridge, Williamstown Road over Hoosic River; one 87-foot span, steel pony truss with reinforced concrete floor.
- North Adams — Braytonville Bridge, Williamstown Road over Hoosic River; one 128-foot span, steel pony truss with reinforced concrete floor.
- Norwood — Nahatan Street extension under tracks of New York, New Haven & Hartford Railroad; one 65-foot span, reinforced concrete rigid frame bridge.

- Oak Bluffs — Lagoon bridge over Lagoon Pond at Tisbury line; nineteen 15-foot spans, timber pile bridge with reinforced concrete floor, one 19-foot steel girder span with reinforced concrete floor at approach to draw span, and an electrically operated steel draw span with open mesh steel decking, 30-foot clear channel opening, total length 351 feet.
- Otis — Blandford Road over West Branch of Farmington River; one 30-foot span, reinforced concrete beam and slab bridge.
- Otis — Blandford Road over a brook; one 17-foot span, reinforced concrete slab.
- Quincy — Fore River Bridge over Weymouth Fore River at Weymouth line; one 58-foot span, steel beams, one 83-foot span steel girders, five 90-foot spans steel girders, and two 212-foot spans steel trusses with reinforced concrete floor, one 219-foot span steel two-leaf rolling lift draw with 175-foot clear channel opening, granite faced concrete foundations; total length of bridge 1,324 feet and of retaining walls 1,068 feet.
- Randolph — North Street over tracks of New York, New Haven & Hartford Railroad; one 42-foot span, steel beams with reinforced concrete floor.
- Revere — Traffic Road over connection to Revere Beach Boulevard and tracks of Boston, Revere Beach and Lynn Railroad; two 60-foot spans, two 99-foot spans and one 121-foot span, steel plate girders with reinforced concrete floor.
- Revere — Tunnel Road over narrow gauge tracks of National Fireproofing Company; one 11-foot span, reinforced concrete box culvert.
- Revere — Under Tunnel Road; three 19-foot oil pipe and pedestrian tunnels of reinforced concrete.
- Sheffield — Berkshire School Road over Schenob Brook; one 25-foot span, steel beams with reinforced concrete floor.
- Stoughton — Washington Street over tracks of New York, New Haven & Hartford Railroad one 90-foot span, through steel girders with reinforced concrete floor.
- Ware — West Street over Muddy Brook; one 24-foot span, reinforced concrete beam and slab.
- Winchester — Washington Street over Aberjona River; one 20-foot span, reinforced concrete slab.
- Worcester — Cambridge Street over tracks of Boston and Albany Railroad; one 96-foot span, through steel girders with reinforced concrete floor.

ALTERATIONS, REPAIRS AND EXTENSIONS TO BRIDGES AND STRUCTURES MADE OR CONTRACTED FOR

- Auburn — Southbridge Street over Dunn's Pond Outlet; one 16-foot span, reinforced concrete beam and slab extension to existing bridge.
- Belchertown — Ware Road over Jabish Brook; one 17-foot span, reinforced concrete slab extension to existing bridge.
- Charlemont — Mohawk Trail; extensions to eight bridges: over Mill Brook, Avery Brook, Wilder Brook, Rice Brook, Patch Brook, and three other brooks.
- Colrain — Center bridge over North River; repairs to pier.
- Concord — Elm Street over Assabet River; one 75-foot span, reinforced concrete arch extension to existing arch.
- Dracut — Fence on structure over Richardson Brook.
- East Bridgewater — Plymouth Street over Satucket River; three 13-foot spans, reinforced concrete slab extension to existing bridge.
- Essex — Gloucester Road over Salt Creek; one 6-foot span, reinforced concrete slab extension to existing culvert.
- Fall River — Brightman Street bridge over Taunton River at Somerset line; repairs to fender pier and painting of steel in superstructure.
- Fitchburg — Ashby Road over Fallulah Brook; one 27-foot span, reinforced concrete beam and slab extension to existing bridge.
- Hatfield — West Street over Running Gutter Brook; one 17-foot span, reinforced concrete slab extension to existing bridge.
- Leominster — Sterling Road over Fall Brook; one 18-foot span, reinforced concrete slab extension to existing bridge.
- North Adams — Williamstown Road over Notch Brook; one 20-foot span, reinforced concrete slab extension to existing bridge.

- North Adams — Williamstown Road over Tail Race; one 28-foot span, reinforced concrete arch extension to existing arch.
- Norton — Copper Works Bridge over Wading River; one 46-foot span, steel stringers with timber floor extension to existing bridge.
- Southbridge — East Main Street over Raceway; one 25-foot span, steel stringers with reinforced concrete floor extension to existing bridge.
- Sterling — Leominster Road over Wekepeke Brook; one 18-foot span, reinforced concrete slab extension to existing bridge.
- Sturbridge — Brimfield Road over Long Pond Reservoir; three 12-foot spans, reinforced concrete slab extension to existing bridge.
- Ware — Palmer Road over Flat Brook; one 16-foot span, reinforced concrete slab extension to existing bridge.
- Wareham — Point Independence Bridge over Onset Bay; repairs to concrete arches.

CONTEMPLATED BRIDGES AND STRUCTURES

Plans, Studies or Estimates Made

Cities and Towns, Locality and Character of Structure

- Beverly — Grade separation, Paradise Crossing over tracks of Boston and Maine Railroad.
- Boston — Grade separation, Jamaicaaway over Huntington Avenue.
- Boston — At Milton line, new bridge over Neponset River.
- Boston — Grade separation at Washington Street and Arborway.
- Bourne — At Wareham line, widening Cohasset Narrows bridge.
- Brookline — Grade separation, Worcester Turnpike at Brookline Village.
- Brookline — Grade separation, Worcester Turnpike over Cypress Street.
- Cheshire — New bridge, North Street over Bassett Brook.
- Dartmouth — New bridge at Westport Factory.
- Dedham — New bridge, Providence Turnpike over Wigwam Brook.
- Dedham — New bridge, Providence Turnpike over Mother Brook.
- Edgartown — New bridge, Katama Road over Mattakesett Creek.
- Florida — At Savoy line, widening bridge on Mohawk Trail over Cold River.
- Gill — At Montague line, new bridge near Turner's Falls.
- Greenfield — At Montague line, new bridge to replace White suspension bridge.
- Greenfield — At Montague line, new bridge to replace Montague City bridge.
- Holyoke — New bridge, Northampton Road under tracks of New York, New Haven & Hartford Railroad.
- Lynnfield — Grade separation, northern circumferential route and Newburyport Turnpike.
- Manchester — New bridge over Manchester Harbor.
- Millbury — New bridge, proposed Worcester-Providence Road over Blackstone River.
- Millbury — New bridge, proposed Worcester-Providence Road over tracks of New York, New Haven & Hartford Railroad.
- Millbury — Grade separation, proposed Worcester-Providence Road at Elm Street.
- Millville — New bridge, Central Street over Blackstone River.
- Milton — Grade separation, Canterbury Street extension over tracks of New York, New Haven & Hartford Railroad.
- New Marlborough — New bridge, Great Barrington Road over Konkapot Brook.
- Newton — At Weston line, new bridge, Northern Circumferential Highway over Charles River.
- Newton — At Wellesley line, new bridge, proposed road over Charles River.
- Peabody — Grade separation, Newburyport Turnpike at Lowell Street.
- Revere — New bridge, Tunnel Road over tracks of Boston and Maine Railroad.
- Saugus — Grade separation, Newburyport Turnpike at Main Street.
- Saugus — Grade separation, Newburyport Turnpike under Walnut Street.
- Sheffield — New bridge, proposed cut-off over tracks of New York, New Haven & Hartford Railroad.
- Southwick — New bridge, College Highway over Uncle Oliver's Brook.
- Southwick — New bridge, College Highway over a culvert.

Sudbury — Widening existing bridge, Boston Post Road over Parmenter's Mill Pond.

Waltham — New bridge, Main Street over tracks of Boston and Maine Railroad.

Weston — Northern circumferential route over South Avenue.

Weston — Northern circumferential route over Weston Aqueduct.

Weston — Northern circumferential route under tracks of Boston and Maine Railroad, Central Massachusetts Division.

Weston — Northern circumferential route over tracks of Boston and Maine Railroad, Fitchburg Division.

Examinations, Reports, Estimates, etc., at Request of Counties, Cities and Towns

Barre — Canal Bridge over Ware River Canal, examination of plans for new bridge.

Bedford — At Carlisle line, bridge over Concord River, estimate for repairs.

Belchertown — At Palmer line, bridge on Depot Street over Swift River, report on condition.

Bridgewater — At Middleborough line, Vernon Street over Taunton River, estimate for new bridge.

Bridgewater — At Middleborough line, Titicut Street over Taunton River, estimate for new bridge.

Brookfield — Fiskdale Road over Quaboag River, estimate for new bridge.

Brookfield — Charlton Road over Dunn Brook, examination of plans for new bridge.

Concord — Lowell Road over Concord River, estimate for widening Red Bridge.

Dartmouth — Padanarum Village over Apponagansett River, estimate for new bridge.

Ipswich — Argilla Road over Labor-in-vain Creek, estimate for new bridge.

Leicester — River Street over Greenville Reservoir, estimate for new bridge.

Leicester — Rawson Street over Cedar Meadow Pond, estimate for new bridge.

Millville — Central Street over Blackstone River, estimate for new bridge.

North Brookfield — Spencer Road over Lake Lashaway, examination of plans for new bridge.

Northbridge — Sutton Road over Blackstone River, report on existing bridge and estimate for new bridge.

Northbridge — Mendon Road over West River, estimate for new bridge.

Palmer — Whipple's Bridge over Ware River, estimate for replacing structure.

Palmer — Forest Lake Bridge over Ware River, estimate for repairs and estimate for replacing structure.

Saugus — Elm Street over Saugus River, estimate for new bridge.

Saugus — Ballard Street over Tidal Creek, estimate for new bridge.

Templeton — Otter River Road over Otter River, examination of plans for new bridge.

Uxbridge — Depot Street over Mumford River, report on condition of bridge.

Uxbridge — Middle bridge over Blackstone River, report on condition of bridge.

Uxbridge — Calumet Bridge over Blackstone River, report on condition.

Uxbridge — Hecla Bridge over Blackstone River, report on condition.

Winchester — Main Street over outlet to Wedge Pond, estimate for new bridge.

Examinations, Reports, Estimates, etc., by direction of the Department

Agawam — At West Springfield line, bridge over Westfield River, estimate for repairs.

Boston — Commonwealth Pier, report on allowable truck loading.

Greenfield — At Montague line, Montague City bridge, report on condition.

Greenfield — At Montague line, estimate for converting existing street railway bridge to highway bridge.

Norton — Bridge over Wading River, estimate for repairs.

Salem — Railroad tunnel, checking estimate of cost.

Taunton — Winthrop Street over Three Mile River, estimate for new bridge.

Westfield — Main Street over Little River, estimate for repairs.

Bridge Plans Submitted and Examined during the Year under the provisions of Chapter 85, General Laws, as amended by Chapter 313 of Acts of 1923.

- Fitchburg — Broad Street over North Branch of Nashua River; two 58-foot spans and one 63-foot span, steel stringers with reinforced concrete floor.
- Framingham — Franklin Street over Sudbury River; one 60-foot span, reinforced concrete arch.
- Haverhill — Rosemont Street over Little River; one 18-foot span, steel stringer with reinforced concrete floor.
- Lawrence — Falls Bridge over Merrimack River; four 147-foot spans, steel plate girders with reinforced concrete floor.
- North Attleborough — Draper Avenue over Seven Mile River; one 14-foot span, reinforced concrete slab.
- North Attleborough — Freeman Street over Ten Mile River; one 19-foot span, reinforced concrete beam and slab.
- North Attleborough — North Washington Street over Ten Mile River; one 13-foot span, reinforced concrete slab.
- Pittsfield — Hungerford Street over Southwest Branch Housatonic River; one 31-foot span, steel stringers with reinforced concrete floor.
- Pittsfield — Hungerford Street over Southwest Branch Housatonic River; one 27-foot span, reinforced concrete beam and slab.
- Pittsfield — Hungerford Street over Jacoby Brook; one 13-foot span, reinforced concrete slab.
- Worcester — Foster Street over Union Street; two 6-foot spans and one 29-foot span, steel stringers with reinforced concrete floor.
- Worcester — Plantation Street over tracks of Boston and Albany Railroad; one 90-foot span, steel plate girder with reinforced concrete floor.

Examinations, Studies, Estimates and Reports by direction of Acts and Resolves of the Legislature

- Chapter 380, Acts of 1934. "An act authorizing the construction of an overpass over Huntington Avenue at or near its intersection with Riverway and Jamaica Way in Boston and Brookline." Plans and specifications are being prepared and construction is scheduled to start in 1935.
- Chapter 17, Resolves of 1934. "Resolve providing for an investigation by the department of public works relative to a state highway between the cities of Lowell and Boston." A report has been made.
- Chapter 31, Resolves of 1934, Section a. This part of the Resolve provides for investigating the advisability of constructing "A traffic circle with or without an overpass at the intersection of Bridge Street and Commercial Avenue in the city of Cambridge near the Cambridge end of the Charles river dam." A report has been made.
- Chapter 31, Resolves of 1934, Section c. This part of the Resolve provides for investigating the advisability of constructing "An overpass carrying the Revere Beach parkway over Broadway and Main Street or a by-pass and/or traffic circles in the city of Everett." A report has been made.
- Chapter 33, Resolves of 1934. "Resolve providing for an investigation by the department of public works relative to extending the existing state highway across Chelsea Creek between Boston and Chelsea." A report has been made.
- Chapter 45, Resolves of 1934. "Resolve providing for an investigation by the department of public works relative to certain proposed traffic routes in the Metropolitan district." A report has been made.

BRIDGE OVER THE MERRIMACK RIVER BETWEEN NEWBURYPORT AND SALISBURY

This bridge was placed in charge of the Massachusetts Highway Commission and made a State highway by the provisions of Chapter 716, Acts of 1912, which also provided that the expense of keeping the bridge in good repair for travel, of operating the draw and of maintaining the structure, shall be paid by the Commonwealth.

The number of draw openings during the year ending Nov. 30, 1934, was 110. In 1933 the number of such openings was 153; in 1932 the number was 220; and in 1931 the number was 415.

The total expenditure during the year was \$5,220.12.
The total expenditure from 1912 to Nov. 30, 1934, inclusive, was \$195,032.23.

BRIDGE OVER TAUNTON RIVER BETWEEN FALL RIVER AND SOMERSET

This bridge was placed in charge of the Massachusetts Highway Commission and made a State highway by the provisions of Chapter 717, Acts of 1912, which also provided that the expense of keeping the bridge in good repair for travel, and for operating the draw and maintaining the structure, shall be paid by the Commonwealth.

The number of draw openings during the year ending Nov. 30, 1934, was 2,118. In 1933 the number of such openings was 1,602; in 1932 the number was 1,662; and in 1931 the number was 1,700.

The total expenditure during the year was \$30,038.15.

The total expenditure from 1912 to Nov. 30, 1934, inclusive, was \$401,656.63.

BRIDGE OVER THE ACUSHNET RIVER BETWEEN CITY OF NEW BEDFORD AND THE TOWN OF FAIRHAVEN

This bridge, which was placed in charge of the Department of Public Works and made a State highway by the provisions of Chapter 406, Acts of 1930, which also provided that the expense of keeping the bridge in good repair for travel, operating the draw and of maintaining the structure, shall be paid by the Commonwealth, was taken over by the Department on June 27, 1930.

The number of draw openings while in charge of the Department beginning June 27, 1930, and ending Nov. 30, 1930, was 1,069. In 1931 the number of such openings was 2,564; in 1932 the number was 2,384; in 1933 the number was 1,867; and in 1934 the number was 1,434.

The total expenditure during the year was \$19,625.75.

The total expenditure while in charge of the Department has been \$85,116.75.

CONSTRUCTION OF TOWN AND COUNTY WAYS

(Section 34, Chapter 90, General Laws, Tercentenary Edition)

During the year the Department has contracted for work to be done in the towns and cities named in the following table, which also shows the type of road, the length contracted for, and the allotments or contributions by the State, towns, cities and counties:

COUNTIES AND TOWNS	CONTRIBUTIONS			TYPE OF ROAD	LENGTH CON-TRACTED FOR (FEET)
	State	Town	County		
<i>Barnstable County</i>					
Barnstable	\$18,000 00	\$9,000 00	\$9,000 00	Gravel and tar mixed in place	22,582
Falmouth	8,000 00	4,000 00	4,000 00	Gravel and tar mixed in place	9,520
Orleans	3,750 00	1,875 00	1,875 00	Bituminous concrete	2,800
Orleans	7,400 00	3,700 00	3,700 00	Bituminous concrete	6,155
<i>Berkshire County</i>					
Adams	8,000 00	4,000 00	4,000 00	Stone and tar mixed in place	4,025
Alford	1,000 00	500 00	500 00	Gravel	700
Alford	500 00	250 00	250 00	Repairs and oiling	7,713
Becket	3,000 00	1,500 00	1,500 00	Gravel	1,960
Becket	1,000 00	500 00	500 00	Gravel	600
Becket	1,000 00	500 00	500 00	Gravel	950
Cheshire	3,200 00	1,600 00	1,600 00	Gravel	4,350
Clarksburg	2,200 00	1,100 00	1,100 00	Gravel	3,100
Dalton	10,000 00	5,000 00	5,000 00	Stone retread	6,617
Egremont	3,200 00	1,600 00	1,600 00	Stone retread	4,400
Florida	4,000 00	4,000 00	—	Gravel	1,200
Great Barrington	10,000 00	5,000 00	5,000 00	Bituminous macadam	2,990
Hancock	32,500 00	1,250 00	5,000 00	Bituminous macadam	7,925
Hancock	2,000 00	850 00	—	Repairs and oiling	50,688
Hancock	1,557 00	71 00	—	Repairs and oiling	9,400
Hinsdale	1,000 00	500 00	500 00	Gravel	1,400
Lanesborough	4,000 00	2,000 00	2,000 00	Gravel and stone retread	2,400
Lanesborough	1,700 00	850 00	850 00	Gravel	750
Lee	4,000 00	2,000 00	2,000 00	Stone retread and gravel	3,713
Lenox	4,000 00	2,000 00	2,000 00	Gravel, gravel and tar and stone retread	3,765
Monterey	1,000 00	500 00	500 00	Gravel	1,050
Monterey	1,000 00	500 00	500 00	Repairs and widening	600
Mount Washington	1,500 00	500 00	1,000 00	Gravel	1,350
New Ashford	800 00	400 00	400 00	Gravel	1,200
New Ashford	500 00	250 00	250 00	Repairs	2,200
New Marlborough	3,000 00	1,500 00	1,500 00	Stone retread	3,000
New Marlborough	3,000 00	1,500 00	1,500 00	Gravel	3,050
North Adams	7,500 00	3,750 00	3,750 00	Stone and tar mixed in place	3,500

COUNTIES AND TOWNS	CONTRIBUTIONS			TYPE OF ROAD	LENGTH CON-TRACTED FOR (FEET)
	State	Town	County		
Otis	\$2,500 00	\$1,250 00	\$1,250 00	Gravel	6,000
Otis	300 00	500 00	50 00	Gravel	3,000
	\$300 00	Farmington River Water Power Co.			
Pittsfield	10,000 00	5,000 00	5,000 00	Bituminous macadam	4,017
Pittsfield	8,500 00	4,750 00	3,750 00	Bituminous macadam	2,600
Pittsmond	2,500 00	1,000 00	1,000 00	Gravel	1,250
Sandisfield	4,000 00	2,000 00	2,000 00	Gravel	4,795
Sheffield	1,000 00	500 00	500 00	Gravel	900
Sheffield	3,350 00	1,675 00	1,675 00	Bridge	—
Stockbridge	5,000 00	2,500 00	2,500 00	Bituminous macadam	1,900
Tyringham	2,000 00	1,000 00	1,000 00	Gravel and stone retread	1,950
Washington	5,000 00	1,000 00	1,500 00	Gravel	2,550
West Stockbridge	7,000 00	3,500 00	3,500 00	Stone retread	10,900
West Stockbridge	2,000 00	—	1,000 00	Gravel	1,600
Williamstown	9,075 00	3,625 00	2,500 00	Reinforced cement concrete and bituminous concrete	690
Williamstown	3,000 00	3,000 00	—	Gravel and stone retread	5,000
Windsor	1,000 00	500 00	500 00	Gravel	700
Windsor	1,000 00	500 00	500 00	Gravel	600
<i>Bristol County</i>					
Berkley	2,000 00	2,000 00	1,000 00	Repairs and oiling	46,776
Easton	6,500 00	6,500 00	—	Gravel	2,500
Freetown	1,000 00	1,000 00	1,000 00	Repairs and oiling	68,306
Raynham	500 00	500 00	500 00	Repairs and oiling	16,080
Rehoboth	700 00	700 00	700 00	Repairs and oiling	64,407
Rehoboth	3,000 00	3,000 00	—	Gravel and tar	2,200
<i>Dukes County</i>					
Edgartown	24,000 00	12,000 00	12,000 00	Bituminous concrete	12,650
Gosnold	12,000 00	6,000 00	6,000 00	Bituminous concrete	5,571
Oak Bluffs-Tisbury	47,500 00	—	47,500 00	Bridge and approaches	—
<i>Essex County</i>					
Amesbury	7,000 00	3,500 00	3,500 00	Bituminous macadam	4,600
Andover	10,000 00	5,000 00	5,000 00	Bituminous macadam	4,250
Boxford	3,000 00	3,000 00	—	Repairs and oiling	69,326
Boxford	4,500 00	500 00	—	Stone retread	4,100
Boxford	4,500 00	1,500 00	3,000 00	Stone retread	3,350
Danvers	7,500 00	3,750 00	3,750 00	Bituminous macadam	8,300
Georgetown	3,000 00	1,500 00	1,500 00	Gravel	2,250
Gloucester	5,000 00	5,000 00	—	Bituminous macadam	1,800
Ipswich	1,500 00	1,500 00	—	Repairs and oiling	40,750
Lawrence	80,000 00	—	—	Bridge	—
Marblehead	7,000 00	7,000 00	—	Bituminous macadam	2,948
Marblehead	1,000 00	1,000 00	—	Bituminous macadam	420
Middleton	1,000 00	1,000 00	—	Repairs and oiling	11,200
Middleton	7,500 00	2,500 00	5,000 00	Bituminous macadam	1,823
Newbury	1,500 00	1,500 00	—	Repairs and oiling	27,984
Rowley	1,000 00	1,000 00	—	Repairs and oiling	26,550
Rowley	1,000 00	500 00	500 00	Gravel	500
				Repairs and oiling	4,500
				Stone retread	2,900
Salisbury	10,000 00	5,000 00	5,000 00	Oiling	5,200
				Grading and drainage	1,400
Salisbury	3,000 00	3,000 00	—	Gravel and tar mixed in place	5,400
West Newbury	1,000 00	1,000 00	—	Repairs and oiling	18,000
West Newbury	6,000 00	3,000 00	3,000 00	Stone retread	2,025
West Newbury	3,032 00	1,032 00	2,000 00	Stone retread	2,090
<i>Franklin County</i>					
Ashfield	1,000 00	1,000 00	—	Gravel	696
Ashfield	2,000 00	1,000 00	1,000 00	Gravel	2,000
Ashfield	3,050 00	240 00	—	Repairs and oiling	31,680
Bernardston	2,000 00	1,000 00	1,000 00	Gravel and tar mixed in place	4,500
Buckland	4,000 00	3,000 00	1,000 00	Gravel and gravel and tar mixed in place	1,700
Charlemont	2,000 00	1,000 00	1,000 00	Gravel	3,000
Colrain	3,500 00	—	—	Bridge repairs	—
Colrain	6,000 00	2,000 00	1,000 00	Bituminous macadam	2,100
Conway	3,000 00	2,000 00	1,000 00	Gravel	2,400
Deerfield	3,000 00	2,000 00	1,000 00	Bituminous macadam	1,250
Erving	2,000 00	1,000 00	1,000 00	Stone retread	3,200
Gill	1,950 00	500 00	—	Repairs and oiling	35,376
Gill	2,000 00	1,000 00	1,000 00	Gravel and tar mixed in place	9,000
Greenfield	20,000 00	19,000 00	1,000 00	Bituminous macadam	3,570
Hawley	1,000 00	500 00	500 00	Gravel	500
Hawley	1,000 00	500 00	500 00	Gravel	1,400
Heath	2,000 00	1,000 00	1,000 00	Gravel	1,800
Leverett	2,000 00	1,000 00	1,000 00	Repairs and oiling	12,144
Leyden	2,000 00	1,000 00	1,000 00	Grading	1,600
Monroe	2,000 00	1,000 00	1,000 00	Gravel and tar mixed in place	4,000
Montague	15,000 00	14,000 00	1,000 00	Bituminous macadam	5,450
New Salem	2,000 00	1,333 00	667 00	Repairs and oiling	44,880
New Salem	2,000 00	1,667 00	333 00	Gravel	2,000
Northfield	2,000 00	1,000 00	1,000 00	Gravel and tar mixed in place	3,750
Orange	400 00	320 00	—	Repairs and oiling	7,392
Orange	1,000 00	1,000 00	500 00	Gravel	6,000
Rowe	3,000 00	1,500 00	1,000 00	Gravel	1,200
Shelburne	3,500 00	3,000 00	500 00	Bituminous macadam	1,681

COUNTIES AND TOWNS	CONTRIBUTIONS		County	TYPE OF ROAD	LENGTH CON-TRACTED FOR (FEET)
	State	Town			
Shelburne	\$1,500 00	\$1,000 00	\$500 00	Bituminous macadam . . .	1,600
Shutesbury	2,000 00	1,000 00	1,000 00	Gravel and tar mixed in place . . .	4,000
Sunderland	4,000 00	1,000 00	1,000 00	Grading	3,550
Warwick	2,000 00	1,000 00	1,000 00	Gravel	1,500
Warwick	2,185 00	415 00	—	Repairs and oiling	43,824
Wendell	1,500 00	1,500 00	—	Repairs and oiling	26,400
Wendell	4,000 00	3,000 00	1,000 00	Gravel	3,200
<i>Hampden County</i>					
Agawam	7,500 00	5,000 00	2,500 00	Bituminous macadam . . .	2,050
Blandford	7,000 00	1,900 00	2,450 00	Gravel and stone retread . . .	5,800
Blandford	600 00	300 00	300 00	Repairs and oiling	9,900
Brimfield	500 00	500 00	500 00	Repairs and oiling	26,250
Brimfield	4,000 00	2,000 00	2,000 00	Gravel and tar mixed in place . . .	3,850
Brimfield	1,000 00	195 44	500 00	Grading	650
Chester	5,000 00	800 00	4,000 00	Gravel and stone retread . . .	5,850
Chester	5,000 00	800 00	4,000 00	Bridge and approaches . . .	—
Chester	1,000 00	500 00	1,000 00	Repairs and oiling	15,500
Chester	3,000 00	—	2,500 00	Gravel	1,416
Chicopee	16,000 00	20,000 00	9,000 00	Bituminous macadam . . .	8,790
East Longmeadow	3,500 00	1,750 00	1,750 00	Gravel and tar mixed in place . . .	11,650
East Longmeadow	500 00	500 00	500 00	Oiling	4,500
Granville	2,500 00	1,000 00	1,500 00	Gravel and tar mixed in place . . .	2,100
Granville	3,000 00	1,500 00	1,500 00	Bituminous macadam . . .	1,726
Granville	950 00	450 00	—	Bituminous macadam . . .	2,300
Granville	400 00	300 00	300 00	Repairs and oiling	10,400
Hampden	7,000 00	2,400 00	4,000 00	Bituminous macadam . . .	475
Hampden	1,000 00	600 00	1,000 00	Bituminous macadam . . .	3,500
Holland	4,000 00	1,000 00	3,200 00	Bituminous macadam . . .	817
Holland	500 00	500 00	500 00	Gravel and tar mixed in place . . .	500
Holland	3,000 00	2,000 00	1,000 00	Repairs and oiling	20,250
Holyoke	18,000 00	10,000 00	8,000 00	Bridge and approaches . . .	—
Ludlow	8,000 00	4,000 00	4,000 00	Bituminous macadam . . .	7,080
Monson	5,000 00	2,500 00	2,500 00	Bituminous macadam . . .	3,800
Monson	200 00	200 00	200 00	Bituminous macadam . . .	650
Montgomery	3,000 00	1,000 00	3,000 00	Gravel and tar mixed in place . . .	2,250
Palmer	12,874 00	6,437 00	6,437 00	Repairs	3,693
Palmer	8,547 00	8,547 00	8,547 00	Stone retread	3,500
Palmer	750 00	750 00	750 00	Bituminous macadam . . .	2,300
Russell	500 00	500 00	500 00	Stone retread	7,750
Russell	350 00	350 00	350 00	Drainage	—
Russell	350 00	350 00	350 00	Gravel	800
Southwick	4,000 00	1,500 00	2,000 00	Retaining wall	—
Southwick	9,000 00	1,000 00	2,000 00	Retaining wall	—
Southwick	2,000 00	1,000 00	1,000 00	Bituminous macadam . . .	1,940
Tolland	5,000 00	2,000 00	3,000 00	Stone retread	9,150
Wales	3,000 00	1,000 00	2,000 00	Bridge and approaches . . .	—
Wales	250 00	250 00	250 00	Gravel and stone retread . . .	6,200
West Springfield	2,700 00	2,000 00	1,300 00	Gravel and tar mixed in place . . .	2,700
West Springfield	20,000 00	10,000 00	10,000 00	Repairs and oiling	8,825
Westfield	5,000 00	5,000 00	5,000 00	Bituminous macadam . . .	850
Wilbraham	6,500 00	4,000 00	2,500 00	Bituminous macadam . . .	4,400
Wilbraham	2,000 00	1,000 00	1,000 00	Bituminous macadam . . .	8,400
Wilbraham	2,000 00	1,000 00	1,000 00	Bituminous macadam . . .	3,400
Wilbraham	2,000 00	1,000 00	1,000 00	Bituminous macadam . . .	3,389
<i>Hampshire County</i>					
Amherst	12,000 00	8,000 00	4,000 00	Bituminous macadam . . .	3,767
Amherst	2,000 00	1,500 00	500 00	Bridge	—
Belchertown	15,928 99	3,750 00	5,000 00	Bituminous macadam . . .	3,900
Belchertown	2,260 00	240 00	—	Repairs and oiling	9,500
Chesterfield	1,000 00	500 00	500 00	Gravel	800
Chesterfield	1,000 00	500 00	500 00	Gravel	600
Chesterfield	1,550 00	150 00	—	Repairs and oiling	31,680
Chesterfield	1,000 00	500 00	500 00	Gravel	700
Cummington	1,000 00	500 00	500 00	Gravel	700
Cummington	3,000 00	1,500 00	1,500 00	Gravel	1,850
Cummington	812 00	38 00	—	Repairs and oiling	7,800
Easthampton	5,000 00	8,000 00	1,950 00	Bituminous macadam . . .	2,900
Easthampton	12,000 00	6,000 00	6,000 00	Bituminous macadam . . .	3,405
Enfield	1,000 00	500 00	500 00	Repairs and oiling	20,064
Goshen	1,030 00	45 00	—	Repairs and oiling	9,400
Goshen	1,000 00	500 00	500 00	Gravel	750
Granby	2,000 00	1,000 00	1,000 00	Bituminous macadam . . .	1,150
Greenwich	500 00	500 00	200 00	Repairs and oiling	15,840
Huntington	2,000 00	1,000 00	1,000 00	Gravel and stone retread . . .	1,650
Huntington	2,000 00	1,000 00	1,000 00	Gravel	950
Middlefield	5,600 00	1,000 00	1,800 00	Stone retread	2,554
Middlefield	450 00	300 00	150 00	Gravel	525
Middlefield	450 00	300 00	150 00	Gravel	300
Northampton	3,000 00	1,500 00	1,500 00	Bituminous macadam . . .	2,042
Northampton	6,000 00	4,000 00	3,000 00	Bituminous macadam . . .	4,500
Northampton	2,000 00	7,500 00	1,000 00	Bituminous macadam . . .	1,005
Pelham	6,800 00	1,200 00	2,000 00	Bituminous macadam . . .	1,925
Plainfield	2,735 00	72 00	—	Repairs and oiling	25,381
Plainfield	8,000 00	1,000 00	1,000 00	Gravel and tar mixed in place . . .	1,950
Plainfield	6,000 00	1,000 00	1,000 00	Gravel and tar mixed in place . . .	2,600
South Hadley	15,000 00	7,500 00	7,500 00	Bituminous macadam . . .	4,600
Southampton	1,000 00	500 00	500 00	Stone retread	2,000

COUNTIES AND TOWNS	CONTRIBUTIONS		County	TYPE OF ROAD	LENGTH CON-TRACTED FOR (FEET)
	State	Town			
Ware	\$4,000 00	\$2,000 00	\$2,000 00	Bituminous macadam . . .	1,400
Ware	1,500 00	500 00	1,000 00	Bridge	—
Westhampton	1,500 00	750 00	750 00	Gravel	1,800
Westhampton	3,600 00	450 00	450 00	Repairs and oiling	21,120
Williamsburg	945 00	165 00	—	Repairs and oiling	11,600
Williamsburg	2,000 00	1,000 00	1,000 00	Stone retreat	3,029
Worthington	2,000 00	1,000 00	1,000 00	Gravel	1,150
Worthington	1,000 00	500 00	500 00	Gravel	800
Worthington	1,500 00	900 00	850 00	Gravel	750
<i>Middlesex County</i>					
Acton	3,750 00	2,500 00	1,250 00	Gravel and oil	4,100
Acton	2,000 00	2,000 00	2,000 00	Repairs and oiling	93,192
Arlington	1,000 00	1,000 00	1,000 00	Bituminous macadam . . .	400
Arlington	7,000 00	3,500 00	3,500 00	Bituminous macadam . . .	3,950
Arlington	15,000 00	15,000 00	7,500 00	Drainage, etc.	3,479
Arlington	1,750 00	1,750 00	—	Bituminous macadam . . .	3,479
Ashby	1,000 00	500 00	1,000 00	Bituminous macadam . . .	500
Ashland	1,500 00	1,500 00	1,500 00	Repairs and oiling	17,952
Ashland	5,000 00	2,500 00	2,500 00	Repairs and oiling	24,288
Ayer	5,000 00	2,500 00	2,500 00	Gravel and tar	5,700
Ayer	5,000 00	2,500 00	2,500 00	Bituminous macadam . . .	2,000
Ayer	1,500 00	1,500 00	1,500 00	Repairs and oiling	48,048
Bedford	1,900 00	1,900 00	1,900 00	Repairs and oiling	46,464
Bedford	6,000 00	2,400 00	3,600 00	Bituminous macadam . . .	2,300
Bedford	600 00	—	600 00	Bridge repairs	—
Bedford	500 00	200 00	300 00	Repairs	700
Belmont	20,000 00	15,000 00	10,000 00	Bituminous macadam . . .	5,095
Billerica	6,000 00	4,000 00	2,000 00	Gravel and tar	4,400
Billerica	3,000 00	3,000 00	3,000 00	Repairs and oiling	82,368
Billerica	9,000 00	6,000 00	4,000 00	Gravel	4,830
Billerica	6,000 00	5,000 00	2,000 00	Gravel and tar	4,000
Boxborough	850 00	850 00	850 00	Repairs and oiling	38,072
Boxborough	1,500 00	500 00	1,000 00	Gravel and tar	1,256
Boxborough	450 00	—	450 00	Drainage	—
Boxborough	1,000 00	500 00	500 00	Gravel and tar	1,500
Burlington	2,500 00	2,500 00	2,500 00	Repairs and oiling	69,168
Burlington	7,000 00	4,000 00	3,000 00	Gravel and tar	7,000
Carlisle	2,500 00	2,500 00	2,500 00	Repairs and oiling	64,944
Carlisle	600 00	200 00	600 00	Bridge repairs	—
Chelmsford	2,500 00	2,500 00	2,500 00	Repairs and oiling	80,256
Chelmsford	6,000 00	4,000 00	2,000 00	Bituminous concrete . . .	1,900
Chelmsford	8,000 00	4,000 00	4,000 00	Bituminous macadam . . .	2,200
Concord	11,000 00	7,000 00	4,000 00	Bituminous macadam . . .	3,340
Concord	1,500 00	1,300 00	1,500 00	Bituminous macadam . . .	3,700
Dracut	2,000 00	2,000 00	2,000 00	Repairs and oiling	57,816
Dracut	4,500 00	3,000 00	1,500 00	Gravel and tar	4,800
Dracut	1,000 00	1,000 00	1,000 00	Bridge repairs	—
Dunstable	1,750 00	1,750 00	1,750 00	Repairs and oiling	50,160
Dunstable	2,500 00	1,000 00	1,500 00	Repairs and oiling	42,240
Framingham	2,500 00	1,500 00	1,000 00	Bituminous macadam . . .	924
Framingham	22,500 00	15,000 00	7,500 00	Bituminous macadam . . .	6,769
Framingham	5,000 00	3,500 00	2,000 00	Bituminous macadam . . .	1,650
Groton	1,500 00	1,500 00	1,500 00	Repairs and oiling	55,968
Holliston	1,500 00	1,500 00	1,500 00	Repairs and oiling	46,492
Holliston	9,500 00	1,500 00	4,000 00	Bituminous macadam . . .	1,683
Holliston	2,000 00	1,000 00	2,000 00	Gravel and tar	2,500
Hopkinton	1,000 00	1,000 00	1,000 00	Repairs and oiling	66,528
Hopkinton	6,600 00	2,200 00	2,200 00	Bituminous macadam . . .	3,080
Hudson	25,000 00	16,700 00	9,000 00	Bituminous macadam . . .	6,159
Hudson	3,000 00	2,000 00	1,000 00	Bituminous macadam . . .	550
Hudson	2,700 00	1,800 00	900 00	Drainage	—
Lexington	11,250 00	7,500 00	3,750 00	Bituminous macadam . . .	2,125
Lincoln	3,000 00	2,000 00	1,000 00	Bituminous macadam . . .	17,424
Lincoln	500 00	500 00	500 00	Repairs and oiling	36,960
Littleton	2,000 00	2,000 00	2,000 00	Repairs and oiling	54,384
Littleton	25,800 00	3,000 00	9,900 00	Bituminous concrete . . .	4,915
Littleton	800 00	800 00	800 00	Gravel and tar	1,150
Littleton	1,200 00	800 00	400 00	Gravel and tar	1,500
Lowell	20,000 00	15,000 00	5,000 00	Bituminous macadam . . .	3,905
Maynard	3,750 00	1,500 00	2,250 00	Bituminous macadam . . .	1,000
Medford	10,000 00	8,000 00	4,000 00	Bituminous concrete . . .	2,275
Medford	10,000 00	8,000 00	4,000 00	Bituminous concrete . . .	1,545
Natick	6,000 00	4,000 00	2,000 00	Gravel and tar	2,200
Natick	1,500 00	1,500 00	1,500 00	Repairs and oiling	50,477
North Reading	4,500 00	3,000 00	1,500 00	Bituminous macadam . . .	2,700
North Reading	2,000 00	2,000 00	2,000 00	Repairs and oiling	52,272
North Reading	200 00	200 00	200 00	Repairs	—
Pepperell	3,000 00	2,000 00	1,000 00	Gravel and tar	3,500
Pepperell	3,000 00	3,000 00	3,000 00	Repairs and oiling	77,616
Reading	9,000 00	6,000 00	3,000 00	Reinforced cement concrete .	809
Reading	7,500 00	5,000 00	2,500 00	Bituminous macadam . . .	3,100
Sherborn	2,000 00	2,000 00	2,000 00	Repairs and oiling	71,280
Sherborn	15,000 00	5,000 00	10,000 00	Bituminous macadam . . .	5,091
Sherborn	4,500 00	1,500 00	3,000 00	Bridge and approaches . .	—
Shirley	1,500 00	1,500 00	1,500 00	Repairs and oiling	51,216
Shirley	6,000 00	3,000 00	3,000 00	Gravel and oil	6,000
Stoneham	22,500 00	15,000 00	7,500 00	Bituminous concrete . . .	6,794
Stoneham				Bituminous macadam . . .	1,200

COUNTIES AND TOWNS	CONTRIBUTIONS			TYPE OF ROAD	LENGTH CON-TRACTED FOR (FEET)
	State	Town	County		
Stoneham	\$3,750 00	\$2,500 00	\$1,250 00	Bituminous macadam	975
Stow	2,000 00	2,000 00	2,000 00	Repairs and oiling	41,184
Sudbury	2,000 00	2,000 00	2,000 00	Repairs and oiling	79,728
Sudbury	2,000 00	1,000 00	1,000 00	Gravel and tar	2,000
Tewksbury	2,000 00	2,000 00	2,000 00	Repairs and oiling	45,408
Tewksbury	7,000 00	3,500 00	3,500 00	Bituminous macadam	3,000
Tewksbury	2,250 00	1,500 00	750 00	Gravel and oil	3,500
Townsend	2,000 00	2,000 00	2,000 00	Repairs and oiling	32,736
Townsend	3,000 00	1,000 00	2,000 00	Gravel and oil	3,500
Tyngsborough	2,500 00	2,500 00	2,500 00	Repairs and oiling	71,280
Tyngsborough	2,000 00	1,000 00	2,000 00	Gravel	2,800
Tyngsborough	2,000 00	1,000 00	2,000 00	Gravel and tar	2,500
Tyngsborough	2,000 00	1,000 00	2,000 00	Gravel and tar	2,600
Wakefield	5,000 00	4,000 00	2,000 00	Bituminous concrete	1,200
Wakefield	4,500 00	3,000 00	1,500 00	Bituminous macadam	1,450
Wayland	9,000 00	6,000 00	3,000 00	Bituminous macadam	690
Wayland	3,000 00	3,000 00	3,000 00	Gravel and oil	2,360
Westford	5,000 00	5,000 00	5,000 00	Repairs and oiling	52,800
Westford	5,500 00	3,000 00	2,500 00	Repairs and oiling	129,888
Westford	3,000 00	1,500 00	1,500 00	Gravel and tar	4,600
Wilmington	3,000 00	2,000 00	1,000 00	Gravel and tar	2,500
Wilmington	1,000 00	1,000 00	1,000 00	Repairs and oiling	2,500
Winchester	17,000 00	12,000 00	7,000 00	Repairs and oiling	35,376
Winchester	14,000 00	9,000 00	5,000 00	Bituminous concrete	2,158
Woburn	12,000 00	8,000 00	4,000 00	Bituminous concrete	6,280
Woburn	12,000 00	8,000 00	4,000 00	Bituminous macadam	1,918
<i>Norfolk County</i>					
Avon	15,000 00	15,000 00	—	Bituminous macadam	4,645
Bellingham	2,650 00	500 00	1,325 00	Repairs and oiling	37,915
Dedham	12,500 00	12,500 00	—	Bituminous macadam	3,935
Dover	4,500 00	1,500 00	3,000 00	Bridge	—
Foxborough	1,650 00	550 00	—	Gravel and tar	1,272
Foxborough	3,108 48	2,500 00	—	Gravel and oiling	500
Franklin	750 00	750 00	1,000 00	Bridge	—
Franklin	7,500 00	7,500 00	—	New Haven Railroad bridge repairs	—
Franklin	2,500 00	2,500 00	—	Gravel and tar	3,850
Medway	1,000 00	1,000 00	1,000 00	Gravel and tar	1,300
Millis	1,000 00	1,000 00	1,000 00	Repairs and oiling	24,920
Norfolk	1,500 00	1,500 00	1,500 00	Repairs and oiling	45,228
Norwood	50,000 00	50,000 00	—	Repairs and oiling	50,465
Sharon	500 00	500 00	500 00	Bituminous macadam	2,098
Walpole	3,000 00	3,000 00	—	Bridge	—
Walpole	6,000 00	6,000 00	—	Repairs and oiling	13,150
Wrentham	4,000 00	4,000 00	—	Gravel and tar	1,916
Wrentham	4,000 00	4,000 00	—	Gravel	4,305
Wrentham	4,000 00	4,000 00	—	Gravel and tar	4,355
Wrentham	4,000 00	4,000 00	—	Gravel and tar	1,800
<i>Plymouth County</i>					
Abington	12,000 00	6,000 00	6,000 00	Bituminous macadam	3,100
Bridgewater	15,000 00	7,500 00	7,500 00	Bituminous macadam	3,600
Brockton	5,000 00	5,000 00	—	Drainage	—
Carver	1,000 00	500 00	500 00	Gravel and tar mixed in place	1,550
Carver	2,000 00	1,000 00	1,000 00	Gravel and tar mixed in place	4,000
East Bridgewater	12,000 00	6,000 00	6,000 00	Bituminous macadam	1,950
Halifax	12,000 00	6,000 00	6,000 00	Gravel and tar	700
Hanover	12,000 00	6,000 00	6,000 00	Two bridges	—
Kingston	7,500 00	3,750 00	3,750 00	Gravel and tar mixed in place	7,137
Lakeville	2,500 00	1,250 00	1,250 00	Bituminous macadam and gravel and tar	1,199
Marion	8,000 00	4,000 00	4,000 00	Gravel and tar	3,800
Marshfield	2,000 00	1,500 00	4,000 00	Bituminous macadam	4,475
Marshfield	3,000 00	1,500 00	1,500 00	Bituminous macadam	1,350
Plympton	1,000 00	500 00	500 00	Repairs	2,046
Rochester	6,000 00	3,000 00	3,000 00	Gravel and tar mixed in place	4,000
Rockland	16,000 00	8,000 00	8,000 00	Gravel and tar	4,863
Scituate	13,200 00	6,600 00	6,600 00	Bituminous macadam	5,120
West Bridgewater	4,000 00	2,000 00	2,000 00	Bituminous macadam	2,304
West Bridgewater	4,000 00	2,000 00	2,000 00	Gravel and tar	6,100
<i>Worcester County</i>					
Ashburnham	1,750 00	1,000 00	1,750 00	Repairs and oiling	39,352
Athol	1,000 00	1,000 00	1,000 00	Repairs and oiling	16,368
Athol	1,500 00	1,500 00	1,500 00	Repairs and oiling	21,895
Athol	1,350 00	1,350 00	1,350 00	Gravel and tar mixed in place	2,350
Auburn	10,500 00	7,000 00	3,500 00	Bridge and approaches	—
Barre	1,750 00	1,000 00	1,750 00	Repairs and oiling	19,000
Barre	8,000 00	5,000 00	4,000 00	Gravel and tar mixed in place	2,650
Barre	2,500 00	2,500 00	—	Bridge and approaches	—
Berlin	4,000 00	1,750 00	2,000 00	Gravel and tar mixed in place	4,800
Berlin	4,000 00	1,750 00	2,000 00	Gravel and tar mixed in place	1,927
Berlin	2,500 00	1,000 00	2,500 00	Repairs and oiling	52,020
Blackstone	6,000 00	4,000 00	2,000 00	Tar macadam	4,100
Blackstone	1,500 00	1,000 00	500 00	Stone retread	1,765
Blackstone	1,000 00	1,000 00	1,000 00	Repairs and oiling	30,100
Bolton	15,000 00	2,000 00	5,000 00	Bituminous macadam	4,200
Bolton	1,000 00	500 00	1,000 00	Repairs and oiling	29,882

COUNTIES AND TOWNS	CONTRIBUTIONS		County	TYPE OF ROAD	LENGTH CON-TRACTED FOR (FEET)
	State	Town			
Boylston	\$4,000 00	\$1,500 00	\$2,000 00	Gravel and tar mixed in place	5,147
Boylston	4,000 00	2,000 00	2,000 00	Gravel and tar	2,150
Boylston	1,000 00	500 00	500 00	Repairs and oiling	2,000
Boylston	1,100 00	800 00	1,100 00	Repairs and oiling	48,866
Brookfield	1,050 00	450 00	750 00	Bridge and approaches	—
Brookfield	1,200 00	600 00	600 00	Gravel and tar mixed in place	3,100
Brookfield	800 00	400 00	400 00	Gravel and tar mixed in place	650
Brookfield	1,000 00	500 00	1,000 00	Repairs and oiling	22,170
Charlton	3,600 00	1,300 00	1,600 00	Gravel and tar mixed in place	3,800
Charlton	1,000 00	300 00	700 00	Gravel and tar mixed in place	1,000
Charlton	200 00	200 00	200 00	Repairs and oiling	21,030
Dana	2,600 00	500 00	1,000 00	Gravel and tar mixed in place	1,500
Dana	1,250 00	500 00	1,250 00	Repairs and oiling	50,795
Dana	2,000 00	1,000 00	1,000 00	Repairs and oiling	13,000
Douglas	4,750 00	2,000 00	2,250 00	Gravel and tar mixed in place	3,350
Douglas	2,500 00	500 00	1,500 00	Gravel and tar mixed in place	2,000
Dudley	9,000 00	5,000 00	4,000 00	Gravel and tar mixed in place	10,124
East Brookfield	2,200 00	1,100 00	1,100 00	Gravel and tar mixed in place	2,500
East Brookfield	600 00	300 00	300 00	Gravel and tar mixed in place	800
Gardner	1,500 00	1,500 00	1,500 00	1,500 Boston & Maine Railroad gravel	3,200
Grafton	10,000 00	5,000 00	5,000 00	Bituminous macadam	4,227
Grafton	2,000 00	2,000 00	2,000 00	Repairs and oiling	26,608
Hardwick	4,000 00	1,400 00	2,600 00	Gravel and tar mixed in place	3,000
Hardwick	1,300 00	1,300 00	1,300 00	Repairs and oiling	42,765
Harvard	1,000 00	1,000 00	1,000 00	Repairs and oiling	47,270
Harvard	1,500 00	1,500 00	1,500 00	Repairs and oiling	8,000
Holden	10,000 00	5,000 00	5,000 00	Gravel and tar mixed in place	4,850
Holden	1,000 00	1,000 00	1,000 00	Repairs and oiling	34,048
Hubbardston	4,000 00	1,000 00	1,000 00	Gravel and tar mixed in place	2,600
Hubbardston	1,000 00	500 00	1,000 00	Grading	700
Hubbardston	1,400 00	700 00	1,400 00	Repairs and oiling	56,970
Leicester	6,000 00	3,000 00	3,000 00	Gravel and tar mixed in place	4,050
Leicester	2,000 00	1,000 00	2,000 00	Repairs and oiling	37,540
Lunenburg	4,000 00	1,500 00	2,500 00	Grading	4,300
Lunenburg	1,500 00	1,000 00	1,500 00	Gravel and tar mixed in place	4,100
Mendon	4,600 00	1,100 00	2,000 00	Repairs and oiling	38,420
Mendon	3,000 00	1,000 00	1,000 00	Grading	2,900
Mendon	3,000 00	1,000 00	1,000 00	Gravel	2,650
Mendon	1,500 00	1,000 00	1,500 00	Gravel and tar mixed in place	1,900
Mendon	1,500 00	1,000 00	1,500 00	Grading	2,300
Milford	10,000 00	5,000 00	5,000 00	Repairs and oiling	28,450
Milford	1,000 00	1,000 00	1,000 00	Bituminous macadam	5,700
Millville	4,000 00	2,000 00	2,000 00	Repairs and oiling	15,800
Millville	600 00	1,188 00	600 00	Gravel and tar mixed in place	3,201
New Braintree	2,000 00	1,000 00	1,000 00	Repairs and oiling	14,000
New Braintree	2,000 00	—	1,000 00	Gravel and tar mixed in place	1,600
New Braintree	1,400 00	700 00	1,400 00	Gravel and tar mixed in place	977
New Braintree	1,000 00	500 00	1,000 00	Repairs and oiling	37,713
North Brookfield	3,450 00	1,725 00	1,725 00	Gravel and tar mixed in place	750
North Brookfield	1,250 00	975 00	975 00	Gravel and tar mixed in place	3,500
North Brookfield	400 00	400 00	400 00	Bridge and approaches	—
Northborough	500 00	400 00	500 00	Repairs and oiling	15,801
Northbridge	8,000 00	5,000 00	4,000 00	Repairs and oiling	14,182
Northbridge	2,500 00	1,500 00	1,000 00	Stone retread and oiling	7,650
Northbridge	500 00	500 00	500 00	Gravel and oil	1,200
Oakham	5,000 00	2,000 00	3,000 00	Repairs and oiling	14,600
Oakham	1,100 00	800 00	1,100 00	Gravel and tar mixed in place	3,423
Paxton	4,500 00	1,500 00	3,000 00	Repairs and oiling	33,810
Paxton	1,200 00	600 00	1,200 00	Gravel and tar mixed in place	3,115
Petersham	1,500 00	1,500 00	1,500 00	Repairs and oiling	32,634
Petersham	932 00	466 00	466 00	Repairs and oiling	36,784
Phillipston	9,000 00	2,000 00	9,000 00	Gravel and tar mixed in place	3,450
Phillipston	1,250 00	500 00	1,250 00	Gravel and tar mixed in place	6,850
Princeton	4,000 00	2,000 00	2,000 00	Repairs and oiling	40,800
Princeton	4,000 00	2,000 00	2,000 00	Gravel and tar mixed in place	3,900
Princeton	225 00	225 00	225 00	Gravel and tar mixed in place	3,350
Princeton	1,200 00	800 00	1,200 00	Gravel and tar mixed in place	949
Royalston	1,000 00	500 00	500 00	Repairs and oiling	80,090
Royalston	3,200 00	1,300 00	2,000 00	Repairs	19,430
Rutland	3,500 00	1,500 00	2,000 00	Repairs and oiling	51,750
Rutland	3,500 00	1,500 00	2,000 00	Gravel and tar mixed in place	1,700
Rutland	1,500 00	1,000 00	1,500 00	Gravel and tar mixed in place	2,700
Shrewsbury	7,500 00	5,000 00	2,500 00	Repairs and oiling	45,040
Shrewsbury	4,000 00	2,000 00	2,000 00	Gravel and tar mixed in place	3,242
Southborough	2,100 00	1,050 00	1,050 00	Repairs and oiling	24,870
Southborough	200 00	200 00	200 00	Gravel and tar mixed in place	2,200
Southbridge	15,000 00	10,000 00	5,000 00	Repairs and oiling	21,800
Southbridge	500 00	500 00	500 00	Bituminous macadam and stone retread	7,275
Spencer	13,000 00	5,000 00	8,000 00	Repairs and oiling	18,350
Spencer	800 00	800 00	800 00	Gravel and tar mixed in place	7,650
Sterling	4,950 00	2,200 00	3,850 00	Repairs and oiling	25,400
Sterling	4,050 00	1,800 00	3,150 00	Gravel and tar mixed in place	4,450
Sterling	700 00	700 00	700 00	Grading	4,000
Sturbridge	2,000 00	1,000 00	2,000 00	Repairs and oiling	59,300
Sturbridge	300 00	150 00	300 00	Gravel and tar mixed in place	2,450
Sturbridge	300 00	150 00	300 00	Repairs and oiling	7,882

COUNTIES AND TOWNS	CONTRIBUTIONS			TYPE OF ROAD	LENGTH CONTRACTED FOR (FEET)
	State	Town	County		
Sutton	\$3,000 00	\$500 00	\$3,000 00	Gravel and tar mixed in place	5,000
Sutton	7,000 00	2,000 00	5,000 00	Gravel and tar mixed in place	4,050
Sutton	1,500 00	—	1,500 00	Grading	800
Sutton	1,200 00	600 00	1,200 00	Repairs and oiling	29,578
Templeton	1,000 00	1,000 00	1,000 00	Repairs and oiling	40,350
Templeton	5,000 00	3,000 00	2,000 00	Gravel and tar	4,000
Templeton	750 00	750 00	750 00	Bridge	—
Upton	5,000 00	2,000 00	3,000 00	Gravel and tar mixed in place	4,000
Upton	5,000 00	2,000 00	3,000 00	Gravel and tar mixed in place	3,400
Uxbridge	8,000 00	4,500 00	3,500 00	Gravel and tar mixed in place	6,850
Uxbridge	8,000 00	4,500 00	3,500 00	Gravel and tar	7,635
Warren	400 00	400 00	400 00	Repairs and oiling	17,740
West Boylston	5,350 00	2,200 00	3,350 00	Gravel and tar mixed in place	4,429
West Boylston	5,000 00	2,000 00	3,000 00	Gravel and tar mixed in place	5,100
West Boylston	1,000 00	800 00	1,000 00	Repairs and oiling	26,836
West Brookfield	3,750 00	1,250 00	2,500 00	Gravel and tar	3,850
West Brookfield	400 00	400 00	400 00	Repairs and oiling	49,860
Westborough	800 00	800 00	800 00	Repairs and oiling	39,050
Westborough	2,000 00	1,000 00	2,000 00	Bituminous macadam	6,650
Westminster	7,000 00	2,500 00	4,500 00	Gravel and tar mixed in place	6,075
Westminster	2,000 00	1,000 00	2,000 00	Repairs and oiling	66,960
Winchendon	800 00	800 00	800 00	Repairs and oiling	19,528

EXPENDITURES FOR CONSTRUCTION OF TOWN AND COUNTY WAYS

The expenditures during the year in various Counties were: —

Barnstable, \$33,957.63	Hampshire, \$297,360.86
Berkshire, \$346,160.43	Middlesex, 644,845.91
Bristol, \$19,277.30	Norfolk, \$83,155.90
Dukes, \$47,890.76	Plymouth, \$136,796.76
Essex, \$74,121.19	Worcester, \$374,530.15
Franklin, \$286,590.21	Total, \$2,587,386.13
Hampden, \$242,699.03	

Details of the foregoing expenditures follow: —

Barnstable County. — Barnstable, \$9,977.04; Falmouth, \$7,647.04; Orleans, \$16,333.55.

Berkshire County. — Adams, \$9,108.24; Alford, \$1,803.67; Becket, \$6,012.23; Cheshire, \$6,400.52; Clarksburg, \$5,600.07; Dalton, \$9,159.05; Egremont, \$3,847.83; Gt. Barrington, \$15,071.31; Hancock, \$35,302.89; Hinsdale, \$7,436.31; Lanesboro, \$8,373.35; Lee, \$4,988.25; Lenox, \$4,793.33; Monterey, \$2,403.35; Mt. Washington, \$1,803.67; New Ashford, \$961.91; New Marlborough, \$7,214.63; No. Adams, \$7,646.24; Otis, \$3,366.84; Peru, \$5,566.35; Pittsfield, \$14,505.01; Richmond, \$3,004.06; Sandisfield, \$4,809.77; Savoy, \$5,317.33; Sheffield, \$3,631.81; Stockbridge, \$7,276.01; Tyringham, \$2,404.89; Washington, \$6,012.22; West Stockbridge, \$10,822.00; Williamstown, \$139,112.50; Windsor, \$2,404.79.

Bristol County. — Berkley, \$2,404.89; Easton, \$8,656.47; Freetown, \$1,202.44; Raynham, \$601.22; Rehoboth, \$4,642.63; Westport, \$1,769.65.

Dukes County. — Edgartown, \$14,125.56; Gosnold, \$8,652.95; Oak Bluffs, \$11,516.66; Tisbury, \$13,595.59.

Essex County. — Amesbury, \$8,417.11; Andover, \$6,492.03; Boxford, \$12,412.51; Danvers, \$7,623.33; Georgetown, \$3,607.33; Gloucester, \$3,006.11; Haverhill, \$3,981.34; Ipswich, \$1,803.67; Marblehead, \$9,257.92; Middleton, \$1,202.44; Newbury, \$1,803.67; Rowley, \$2,404.89; Salisbury, \$6,818.09; West Newbury, \$5,290.75.

Franklin County. — Ashfield, \$7,274.79; Bernardston, \$2,404.89; Buckland, \$4,809.75; Charlemont, \$2,404.89; Colrain, \$5,872.72; Conway, \$3,605.79; Deerfield, \$3,607.33; Erving, \$2,572.30; Gill, \$4,747.63; Greenfield, \$8,998.28; Hawley, \$2,404.73; Heath, \$2,404.88; Leverett, \$2,404.89; Leyden, \$2,404.89; Monroe, \$2,401.51; Montague, \$17,177.78; New Salem, \$128,698.82; Northfield, \$2,404.89; Orange, \$14,433.04; Rowe, \$3,607.33; Shelburne, \$4,208.56; Shutesbury, \$41,285.40; Sunderland, \$4,809.78; Warwick, \$5,031.90; Wendell, \$6,613.44.

Hampden County. — Agawam, \$13,402.00; Blandford, \$9,111.12; Brimfield, \$6,394.65; Chester, \$16,833.93; Chicopee, \$18,788.28; East Longmeadow, \$4,809.78; Granville, \$9,426.00; Hampden, \$9,619.56; Holland, \$7,199.92; Holyoke, \$18,313.72; Longmeadow, \$10,652.20; Ludlow, \$9,048.15; Monson, \$5,060.96; Montgomery, \$3,607.33; Palmer, \$23,079.43; Russell, \$1,441.28; Southwick, \$15,-

631.77; Springfield, \$3,217.52; Tolland, \$6,012.22; Wales, \$4,316.62; Westfield, \$6,012.23; West Springfield, \$30,499.58; Wilbraham, \$10,220.78.

Hampshire County.—Amherst, \$12,421.34; Belchertown, \$34,850.85; Chesterfield, \$5,471.12; Cummington, \$5,785.84; Easthampton, \$16,807.55; Enfield, \$1,202.44; Goshen, \$2,440.96; Granby, \$2,404.89; Greenwich, \$601.22; Huntington, \$5,049.34; Middlefield, \$12,526.81; Northampton, \$12,915.36; Pelham, \$93,905.13; Plainfield, \$14,135.85; Southampton, \$3,190.73; So. Hadley, \$14,668.62; Ware, \$4,809.78; Westhampton, \$6,132.47; Williamsburg, \$8,585.59; Worthington, \$39,354.97.

Middlesex County.—Acton, \$6,914.06; Arlington, \$24,606.87; Ashby, \$1,202.44; Ashland, \$3,846.75; Ayer, \$10,595.77; Bedford, \$10,220.69; Belmont, \$18,828.02; Billerica, \$29,596.36; Boxborough, \$4,028.19; Carlisle, \$4,930.02; Chelmsford, \$17,692.02; Concord, \$15,919.23; Dracut, \$9,018.33; Dunstable, \$6,643.37; Framingham, \$34,928.59; Groton, \$5,805.42; Holliston, \$15,273.73; Hopkinton, \$14,128.46; Hudson, \$39,246.21; Lexington, \$3,076.33; Lincoln, \$4,899.96; Littleton, \$34,784.30; Lowell, \$40,446.38; Malden, \$7,822.43; Marlboro, \$4,985.91; Maynard, \$4,381.06; Medford, \$18,799.36; Melrose, \$8,073.34; Natick, \$8,956.07; No. Reading, \$7,815.48; Pepperell, \$7,214.32; Reading, \$21,936.04; Sherborn, \$19,563.74; Shirley, \$9,018.33; Stoneham, \$23,038.57; Stow, \$2,404.89; Sudbury, \$4,809.73; Tewksbury, \$15,180.86; Townsend, \$6,012.22; Tyngsborough, \$10,224.78; Wakefield, \$13,171.49; Watertown, \$1,885.41; Wayland, \$13,991.79; Westford, \$18,093.56; Wilmington, \$4,809.26; Winchester, \$35,200.07; Woburn, \$8,620.89.

Norfolk County.—Avon, \$12,024.45; Bellingham, \$3,518.38; Dedham, \$13,209.51; Foxborough, \$5,765.92; Franklin, \$14,371.35; Medway, \$1,522.79; Millis, \$1,202.44; Needham, \$901.19; Norfolk, \$1,803.56; Norwood, \$270.54; Sharon, \$593.98; Walpole, \$11,032.03; Weymouth, \$4,211.20; Wrentham, \$12,728.56.

Plymouth County.—Abington, \$10,609.63; Bridgewater, \$11,968.82; Brockton, \$16,913.37; Carver, \$3,607.33; East Bridgewater, \$10,921.75; Halifax, \$7,846.90; Hanover, \$11,206.43; Kingston, \$4,779.67; Lakeville, \$3,005.63; Marion, \$8,256.67; Marshfield, \$2,404.89; Plympton, \$1,202.44; Rochester, \$7,214.67; Rockland, \$17,783.03; Scituate, \$14,265.75; West Bridgewater, \$4,809.78.

Worcester County.—Athol, \$841.86; Auburn, \$9,847.44; Barre, \$10,396.03; Berlin, \$9,832.26; Blackstone, \$9,394.26; Bolton, \$19,479.94; Boylston, \$11,627.44; Brookfield, \$4,034.20; Charlton, \$3,921.00; Clinton, \$1,541.56; Dana, \$4,628.78; Douglas, \$7,747.38; Dudley, \$9,800.02; East Brookfield, \$4,869.90; Grafton, \$10,507.28; Hardwick, \$4,760.13; Harvard, \$808.14; Holden, \$11,431.58; Hubbardston, \$6,460.90; Leicester, \$7,214.67; Lunenburg, \$4,007.05; Mendon, \$11,064.40; Milford, \$10,145.82; Millville, \$2,490.55; New Braintree, \$6,218.00; No. Brookfield, \$752.31; Northbridge, \$7,688.02; Oakham, \$4,995.63; Paxton, \$7,318.47; Petersham, \$1,625.00; Phillipston, \$9,322.82; Princeton, \$5,022.13; Rutland, \$9,829.42; Shrewsbury, \$11,105.45; Southborough, \$8,266.81; Southbridge, \$7,583.07; Spencer, \$18,932.02; Sterling, \$11,593.86; Sturbridge, \$2,404.89; Sutton, \$14,107.22; Templeton, \$6,202.80; Upton, \$12,024.44; Uxbridge, \$21,851.65; Warren, \$261.09; West Boylston, \$12,215.97; West Brookfield, \$4,249.14; Westborough, \$2,404.89; Westminster, \$11,702.46.

REPAIR AND IMPROVEMENT OF PUBLIC WAYS, EXCLUSIVE OF STATE HIGHWAYS, IN CERTAIN TOWNS

(Sections 26 to 29 and 31 of Chapter 81 of the General Laws, as appearing in the Tercentenary Edition thereof, as amended with reference to Section 26 by Chapter 366 of the Acts of 1934)

During the year the Department contracted for work to be done in the towns named in the following table, which also shows the road mileage in the towns and the allotments or contributions by the State and towns:—

Counties and Towns	Miles of Road	Allotment	
		State	Town
<i>Barnstable County</i>			
Brewster	40	\$6,000 00	\$4,000 00
Dennis	78	11,700 00	7,800 00
Eastham	41	6,150 00	3,075 00
Mashpee	27	4,100 00	2,025 00
Sandwich	67	10,050 00	6,700 00
Truro	29	4,350 00	3,625 00
Wellfleet	36	5,400 00	4,500 00
<i>Berkshire County</i>			
Alford	19	2,850 00	760 00
Becket	58	8,700 00	2,320 00
Cheshire	42	6,300 00	4,200 00
Clarksburg	14	2,100 00	2,100 00
Egremont	32	4,800 00	2,400 00
Florida	43	6,450 00	3,225 00
Hancock	30	4,500 00	1,200 00
Hinsdale	55	5,250 00	2,625 00
Lanesborough	42	6,300 00	3,150 00
Monterey	52	7,800 00	2,080 00
Mount Washington	20	3,000 00	500 00
New Ashford	9	1,350 00	360 00
New Marlborough	85	12,750 00	3,400 00
Otis	49	7,350 00	1,225 00
Peru	37	5,550 00	555 00
Richmond	34	5,100 00	1,700 00
Sandisfield	79	11,850 00	1,185 00
Savoy	56	8,400 00	840 00
Sheffield	77	11,550 00	3,850 00
Tyringham	25	3,750 00	1,000 00
Washington	51	7,650 00	765 00
West Stockbridge	36	5,400 00	2,700 00
Windsor	65	9,750 00	975 00
<i>Bristol County</i>			
Berkley	42	6,300 00	2,100 00
Freetown	47	7,050 00	3,525 00
Norton	57	8,550 00	5,700 00
Raynham	45	6,750 00	4,500 00
Rehoboth	109	16,350 00	5,450 00
Swansea	56	8,400 00	8,400 00
<i>Dukes County</i>			
Chilmark	14	2,100 00	1,400 00
West Tisbury	13	1,950 00	1,950 00
<i>Essex County</i>			
Boxford	53	7,950 00	2,650 00
Essex	21	3,150 00	3,150 00
Georgetown	35	5,250 00	4,375 00
Groveland	30	4,500 00	3,750 00
Merrimac	31	4,650 00	4,650 00
Middleton	30	4,500 00	4,500 00
Newbury	37	5,550 00	4,625 00
Rowley	31	4,650 00	3,100 00
Topsfield	38	5,700 00	5,700 00
West Newbury	37	5,550 00	2,775 00

Counties and Towns	Miles of Road	Allotment	
		State	Town
<i>Franklin County</i>			
Ashfield	81	12,150 00	3,240 00
Bernardston	40	6,000 00	3,000 00
Buckland	45	6,750 00	5,625 00
Charlemont	49	7,350 00	2,450 00
Colrain	84	12,600 00	3,360 00
Conway	72	10,800 00	2,880 00
Deerfield	74	11,100 00	9,250 00
Gill	34	5,100 00	2,550 00
Hawley	49	7,350 00	735 00
Heath	53	7,950 00	795 00
Leverett	38	5,700 00	1,520 00
Leyden	39	5,850 00	585 00
Monroe	18	2,700 00	2,250 00
New Salem	67	10,050 00	1,005 00
Northfield	66	9,900 00	4,950 00
Rowe	41	6,150 00	1,640 00
Shelburne	48	7,200 00	6,000 00
Shutesbury	40	6,000 00	1,000 00
Sunderland	34	5,100 00	2,550 00
Warwick	55	8,250 00	825 00
Wendell	48	7,200 00	2,400 00
Whately	40	6,000 00	3,000 00
<i>Hampden County</i>			
Blandford	78	11,700 00	1,950 00
Brimfield	60	9,000 00	3,000 00
Chester	68	10,200 00	3,400 00
Granville	72	10,800 00	5,400 00
Hampden	34	5,100 00	1,700 00
Holland	30	4,500 00	450 00
Monson	101	15,150 00	7,575 00
Montgomery	27	4,050 00	675 00
Southwick	50	7,500 00	5,000 00
Tolland	41	6,150 00	615 00
Wales	25	3,750 00	1,000 00
Wilbraham	43	6,450 00	6,450 00
<i>Hampshire County</i>			
Belchertown	113	16,950 00	4,520 00
Chesterfield	59	8,850 00	1,475 00
Cummington	49	7,350 00	1,225 00
Enfield	37	5,550 00	1,480 00
Goshen	28	4,200 00	700 00
Granby	48	7,200 00	2,400 00
Greenwich	39	5,850 00	1,560 00
Hadley	58	8,700 00	7,250 00
Hatfield	46	6,900 00	5,750 00
Huntington	41	6,150 00	3,075 00
Middlefield	41	6,150 00	615 00
Pelham	35	5,250 00	1,400 00
Prescott	39	5,850 00	585 00
Southampton	56	8,400 00	2,240 00
Westhampton	50	7,500 00	750 00
Williamsburg	43	6,450 00	3,225 00
Worthington	68	10,200 00	1,020 00

Counties and Towns	Miles of Road	Allotment	
		State	Town
<i>Middlesex County</i>			
Acton	58	8,700 00	8,700 00
Ashby	56	8,400 00	2,240 00
Ashland	38	5,700 00	5,700 00
Bedford	35	5,250 00	5,250 00
Boxborough	23	3,450 00	920 00
Burlington	34	5,100 00	5,100 00
Carlisle	42	6,300 00	3,150 00
Dracut	61	9,150 00	9,150 00
Dunstable	37	5,550 00	925 00
Groton	72	10,800 00	10,800 00
Holliston	50	7,500 00	7,500 00
Hopkinton	66	9,900 00	6,600 00
Lincoln	37	5,550 00	5,550 00
Littleton	42	6,300 00	5,250 00
North Reading	31	4,650 00	4,650 00
Pepperell	69	10,350 00	6,900 00
Sherborn	43	6,450 00	4,300 00
Shirley	46	6,900 00	4,600 00
Stow	45	6,750 00	3,375 00
Sudbury	64	9,600 00	4,800 00
Tewksbury	56	8,400 00	8,400 00
Townsend	70	10,500 00	5,250 00
Tyngsborough	40	6,000 00	3,000 00
Westford	85	12,353 16	10,625 00
<i>Norfolk County</i>			
Bellingham	44	6,600 00	6,600 00
Medfield	41	6,150 00	6,150 00
Medway	44	6,600 00	6,600 00
Millis	39	5,850 00	5,850 00
Norfolk	41	6,150 00	4,100 00
Plainville	32	4,800 00	4,000 00
<i>Plymouth County</i>			
Carver	68	10,200 00	6,800 00
Halifax	34	5,100 00	3,400 00
Hanson	36	5,400 00	5,400 00
Lakeville	42	6,300 00	3,150 00
Norwell	47	7,050 00	4,700 00
Pembroke	49	7,350 00	6,125 00
Plympton	30	4,500 00	1,500 00
Rochester	50	7,500 00	3,750 00
<i>Worcester County</i>			
Ashburnham	75	11,250 00	5,625 00
Barre	110	16,500 00	8,250 00
Berlin	39	5,850 00	2,925 00
Bolton	53	7,950 00	2,650 00
Boylston	40	6,000 00	3,000 00
Brookfield	37	5,550 00	3,700 00
Charlton	116	17,400 00	4,640 00
Dana	43	6,450 00	1,720 00
Douglas	70	10,500 00	5,250 00
Dudley	63	9,450 00	7,875 00
East Brookfield	19	2,850 00	2,375 00
Grafton	68	10,200 00	10,200 00

Counties and Towns	Miles of Road	Allotment	
		State	Town
Hardwick	96	14,400 00	7,200 00
Harvard	56	8,400 00	5,600 00
Holden	77	11,550 00	7,700 00
Hubbardston	75	11,250 00	1,875 00
Lancaster	58	8,700 00	7,250 00
Leicester	66	9,900 00	8,250 00
Lunenburg	66	9,900 00	4,950 00
Mendon	36	5,400 00	3,600 00
New Braintree	49	7,350 00	1,225 00
North Brookfield	69	10,350 00	6,900 00
Northborough	47	7,050 00	4,700 00
Oakham	45	6,750 00	1,125 00
Oxford	66	9,900 00	8,250 00
Paxton	29	4,350 00	2,175 00
Petersham	70	10,500 00	3,500 00
Phillipston	41	6,150 00	1,025 00
Princeton	72	10,800 00	2,880 00
Royalston	67	10,050 00	1,675 00
Rutland	68	10,200 00	3,400 00
Southborough	45	6,750 00	6,750 00
Spencer	100	15,000 00	12,500 00
Sterling	73	10,950 00	5,475 00
Sturbridge	70	10,500 00	3,500 00
Sutton	84	12,600 00	4,200 00
Templeton	63	9,450 00	7,875 00
Upton	60	9,000 00	4,500 00
Warren	71	10,650 00	8,875 00
West Boylston	36	5,400 00	5,400 00
West Brookfield	53	7,950 00	3,975 00
Westborough	57	8,550 00	8,550 00
Westminster	77	11,550 00	3,080 00

EXPENDITURES FOR REPAIR AND IMPROVEMENT OF PUBLIC WAYS

The expenditures during the year in the various counties were:

Barnstable, \$49,819.02	Hampshire, \$140,800.35
Berkshire, \$153,487.78	Middlesex, \$129,845.60
Bristol, \$56,257.65	Norfolk, \$38,384.07
Dukes, \$3,950.68	Plymouth, \$52,854.06
Essex, \$50,827.27	Worcester, \$383,308.27
Franklin, \$173,925.03	Total, \$1,321,420.45
Hampden, \$87,960.67	

Barnstable County.—Brewster, \$5,878.61; Dennis, \$12,905.55; Eastham, \$6,215.54; Mashpee, \$4,034.96; Sandwich, \$10,824.62; Truro, \$4,586.82; Wellfleet, \$5,372.92.

Berkshire County.—Alford, \$3,555.58; Becket, \$9,085.20; Cheshire, \$7,045.31; Clarksburg, \$2,262.66; Egremont, \$5,556.41; Florida, \$6,734.64; Hancock, \$4,270.83; Hinsdale, \$5,585.01; Lanesboro, \$5,311.86; Monterey, \$11,454.92; Mt. Washington, \$2,592.51; New Ashford, \$1,142.18; New Marlboro, \$11,869.47; Otis, \$7,194.86; Peru, \$5,776.21; Richmond, \$5,293.91; Sandisfield, \$12,354.97; Savoy, \$7,981.45; Sheffield, \$11,682.12; Tyringham, \$4,146.28; Washington, \$7,669.83; West Stockbridge, \$5,408.31; Windsor, \$9,513.26.

Bristol County.—Berkley, \$6,637.14; Freetown, \$7,427.27; Norton, \$9,007.54; Raynham, \$7,111.22; Rehoboth, \$17,224.96; Swansea, \$7,849.52.

Dukes County.—Chilmark, \$2,001.68; West Tisbury, \$1,949.00.

Essex County.—Boxford, \$8,375.44; Essex, \$3,395.99; Georgetown, \$3,916.24; Groveland, \$4,740.81; Merrimac, \$4,898.84; Middleton, \$4,740.81; Newbury, \$5,847.00; Rowley, \$4,898.84; Topsfield, \$4,166.30; West Newbury, \$5,847.00.

Franklin County.—Ashfield, \$12,879.00; Bernardston, \$6,294.74; Buckland, \$7,084.88; Charlemont, \$7,901.36; Colrain, \$13,563.99; Conway, \$10,868.75; Deerfield, \$11,798.74; Gill, \$4,661.80; Hawley, \$7,664.31; Heath, \$8,375.44; Leverett, \$6,110.38; Leyden, \$6,163.06; Monroe, \$2,791.81; New Salem, \$9,639.65; Northfield, \$9,876.64; Rowe, \$6,531.32; Shelburne, \$7,637.98; Shutesbury, \$6,426.44; Sunderland, \$5,241.23; Warwick, \$8,981.21; Wendell, \$7,111.22; Whately, \$6,321.08.

Hampden County.—Blandford, \$12,572.47; Brimfield, \$7,912.72; Chester, \$8,323.39; Granville, \$11,377.95; Hampden, \$5,583.62; Holland, \$3,521.32; Monson, \$14,039.63; Southwick, \$7,901.35; Tolland, \$5,592.24; Wales, \$4,130.11; Wilbraham, \$7,005.87.

Hampshire County.—Belchertown, \$17,198.22; Chesterfield, \$9,323.60; Cummington, \$7,743.33; Enfield, \$5,926.02; Goshen, \$4,424.76; Granby, \$8,033.04; Greenwich, \$6,163.06; Hadley, \$9,165.57; Hatfield, \$7,269.25; Huntington, \$5,944.16; Middlefield, \$5,091.63; Pelham, \$5,583.62; Plainfield, \$7,743.33; Prescott, \$6,189.39; Southampton, \$8,849.51; Westhampton, \$7,901.36; Williamsburg, \$6,795.17; Worthington, \$11,455.33.

Middlesex County.—Acton, \$5,267.57; Ashby, \$6,639.14; Ashland, \$5,109.54; Bedford, \$5,004.19; Boxboro, \$2,686.46; Burlington, \$4,266.73; Carlisle, \$3,476.60; Dracut, \$6,900.52; Dunstable, \$4,003.35; Groton, \$9,745.00; Holliston, \$4,635.46; Hopkinton, \$6,426.44; Lincoln, \$5,162.22; Littleton, \$5,109.54; North Reading, \$3,476.60; Pepperell, \$8,586.14; Sherborn, \$4,108.70; Shirley, \$5,688.98; Stow, \$5,320.25; Sudbury, \$4,424.75; Tewksbury, \$3,950.68; Townsend, \$7,163.90; Tyngsboro, \$5,741.65; Westford, \$6,953.19.

Norfolk County.—Bellingham, \$7,252.73; Medfield, \$6,479.11; Medway, \$6,953.19; Millis, \$6,163.06; Norfolk, \$6,479.11; Plainville, \$5,056.87.

Plymouth County.—Carver, \$10,099.48; Halifax, \$4,107.53; Hanson, \$5,038.61; Lakeville, \$6,565.67; Norwell, \$6,343.08; Pembroke, \$7,936.94; Plympton, \$4,716.58; Rochester, \$8,046.17.

Worcester County.—Ashburnham, \$10,029.32; Barre, \$15,202.88; Berlin, \$5,593.03; Bolton, \$8,003.57; Boylston, \$5,270.00; Brookfield, \$4,365.73; Charlton, \$16,324.05; Dana, \$7,222.91; Douglas, \$9,589.58; Dudley, \$9,955.71; East Brookfield, \$3,000.70; Grafton, \$11,422.82; Harvard, \$8,849.52; Hardwick, \$14,344.51; Holden, \$12,378.34; Hubbardston, \$10,624.34; Lancaster, \$9,165.57; Leicester, \$10,888.87; Lunenburg, \$7,192.48; Mendon, \$5,767.60; New Braintree, \$7,246.87; North Brookfield, \$11,247.87; Northborough, \$7,135.25; Oakham, \$5,545.75; Oxford, \$11,175.90; Paxton, \$4,554.97; Petersham, \$10,534.50; Phillipston, \$2,974.88; Princeton, \$8,586.91; Royalston, \$10,095.13; Rutland, \$11,395.37; Southborough, \$7,337.71; Spencer, \$13,992.43; Sterling, \$7,987.70; Sturbridge, \$8,803.51; Sutton, \$13,066.56; Templeton, \$8,901.41; Upton, \$7,399.55; Warren, \$8,637.97; West Boylston, \$5,816.82; West Brookfield, \$7,218.37; Westborough, \$7,539.72; Westminster, \$10,921.59.

HIGHWAY IMPROVEMENTS AUTHORIZED BY SPECIAL ACTS

In accordance with the provisions of Chapter 348 of the Acts of 1933, the following contracts were entered into:

Quincy-Weymouth, January 16, 1934, contract made with V. Barletta Co., of Boston, for constructing the substructure for a steel bridge over Weymouth Fore River in Quincy and Weymouth. The proposal amounted to \$912,112.40. Work about one-half completed. Expenditure during 1934, \$424,652.02.

Quincy-Weymouth, March 7, 1934, contract made with McClintic-Marshall Corporation, of Boston, for constructing the superstructure for a steel bridge over Fore River in Quincy and Weymouth. The proposal amounted to \$717,000.00. Work about one-sixth completed. Expenditure during 1934, \$76,194.00.

Quincy-Weymouth, May 15, 1934, contract made with E. L. Conwell & Co., of Philadelphia, Pennsylvania, for mill and shop inspection of the structural steel and machinery for the superstructure of the Fore River Bridge in Quincy and Weymouth. The proposal amounted to \$1,186.97. Work not yet commenced.

In accordance with the provisions of Chapter 241 of the Acts of 1932, the following contracts were entered into:

Lynn-Revere, January 10, 1934, contract made with The Crandall Engineering Company, of Cambridge, for constructing the substructure of a steel bridge over the Saugus River in Lynn and Revere. The proposal amounted to \$510,418.79. Work about one-half completed. Expenditure during 1934, \$335,755.56.

Lynn-Revere, October 2, 1934, contract made with McClintic-Marshall Corporation, of Boston, for constructing the superstructure for a steel bridge over the Saugus River in Lynn and Revere. The proposal amounted to \$540,906.63. Work not yet commenced.

Lynn-Revere, October 30, 1934, contract made with James G. Dempsey, of Philadelphia, Pennsylvania, for mill and shop inspection of steel work and mechanical equipment for the superstructure of the Saugus River Bridge in Lynn and Revere. The proposal amounted to \$900.72. Work not yet commenced.

THE REGULATION OF ADVERTISING SIGNS AND DEVICES WITHIN THE PUBLIC VIEW (Sections 29 to 33, Chapter 93, General Laws)

In accordance with the provisions of sections 29 to 33 inclusive, chapter 93, General Laws, providing for the control of billboards and other advertising devices on public ways or on private property within public view of any highway, public park or reservation, the Department adopted on January 24, 1924, certain new rules and regulations, superseding all former issues; and these have continued in force during the present year.

Applications, Licenses and Permits.—Licenses were granted to 22 individuals and others to engage in the business of advertising in the Commonwealth by the use of outdoor signs.

Of 796 applications received for permits for the erection of advertising signs, 532 permits have been granted; and 147 permits were granted on applications filed previous to 1934. Forty-seven (47) applications for the erection of new signs were not approved because the locations were in violation of the rules and regulations adopted January 24, 1924; and 11 applications for permits were cancelled.

Of 2,819 renewal applications sent to those whose permits were to expire June 30, 1934, 2,568 were returned to the Department requesting renewal; and on account of the advertisers failing to renew, 184 permits were cancelled. The number of renewal applications approved to be in force until June 30, 1935, was 2,782. The total number of permits in force November 30, 1934, was 2,934.

Receipts and Expenditures.—The total receipts for the year ending November 30, 1934, were \$14,995.88 and the expenditures were \$14,436.11.

The Removal of Signs.—The "Sign Patrol" consisting of small trucks completely equipped for the work, have removed 120,000 signs during the year in addition to 11,000 removed by other agents of the Department, under authority of section 30A, Chapter 93, General Laws, from within the highways and from private property.

Injunction.—On June 19, 1925, a temporary injunction was granted the General Outdoor Advertising Company, Inc., and others, as complainants enjoining and restraining the Commissioners, constituting the Department of Public Works, for the Commonwealth, until the further order of the Court, from proceeding in any way against them for any alleged failure to comply with the Rules and Regulations for the control and restriction of the billboards, signs and other devices, promulgated under date of January 24, 1924. This injunction is still in force and will be until the case is settled in Court.

Hearings.—Hearings were given to officials of Dedham, Lexington, Needham, Pittsfield, Stoneham, Wellesley, Westwood and to one individual.

CONTRACT PRICES DEC. 1, 1933, TO NOV. 30, 1934

TOWN OR CITY	CONTRACTOR	EXCAVATION			BORROW		Plain Concrete Masonry (Cu. Yd.)
		Earth (Cu. Yd.)	Ledge (Cu. Yd.)	Trench (Cu. Yd.)	Ord. (Cu. Yd.)	Gravel (Cu. Yd.)	
*Agawam . . .	D. O'Connell's Sons . . .	\$0 40	-	\$0 70	-	\$0 87	\$18 00
Arlington . . .	University Contracting Co. . .	27	\$0 25	-	-	30	-
*Arlington-Belmont- Lexington . . .	G. A. Fuller . . .	38	1 80	1 00	\$0 35	44	13 00
*Ashby-Fitchburg . . .	Fitchburg Concrete Construc- tion Co. . .	45	1 75	1 10	-	50	15 00
*Ashland-Holliston . . .	E. H. Lewis . . .	50	-	1 50	-	50	20 00
Auburn . . .	Lee Construction Co. . .	85	85	1 00	-	40	20 00
°Auburn . . .	G. I. Hosmer . . .	-	10 00	-	-	-	-
°Auburn . . .	Peter Salvucci . . .	50	4 00	1 00	50	50	16 00
Avon . . .	Bradford-Weston . . .	30	2 00	80	-	40	15 00
*Blandford-Russell . . .	Arborio Road Construction Co. . .	1 00	1 00	1 25	50	60	16 00
°Bourne . . .	Eastern Contracting Co. . .	18	90	75	01	25	18 00
°Bourne-Wareham . . .	Eastern Contracting Co. . .	30	2 50	75	20	25	20 00
*Braintree-Ran- dolph . . .	State Construction Co. . .	27	2 25	75	-	35	14 00
Bridgewater . . .	M. F. Roach & Sons . . .	30	2 50	80	-	40	15 00
*Brimfield-Stur- bridge . . .	N. H. Road Con. Co. . .	50	50	1 25	-	55	20 00
*Brookline . . .	Coleman Bros. . .	50	4 00	1 50	-	50	10 00
Brookline . . .	Simpson Bros. . .	50	10 00	1 50	-	-	-
*Charlemont . . .	Kelleher Corporation . . .	60	60	1 00	30	47	17 00
*Charlton-Stur- bridge . . .	Rome Constr. Co. . .	40	1 40	1 25	-	50	18 00
*Charlton-Stur- bridge-E. Brook- field . . .	A. L. Perini . . .	30	3 00	1 25	35	60	18 00
*Concord . . .	B. Perini Co. . .	27	27	1 50	29	28	18 00
*Concord-Lincoln . . .	B. Perini Co. . .	33	33	1 20	25	15	17 00
Dalton . . .	C. B. Lindholm . . .	60	60	1 00	-	50	18 00
Danvers . . .	M. McDonough Co. . .	60	1 50	50	-	25	-
Dedham . . .	M. McDonough Co. . .	20	1 00	70	20	30	10 00
*Dennis-Yarmouth . . .	N. E. Foundation Co., Inc. . .	1 00	2 00	1 00	30	75	10 00
Dover-Sherborn . . .	Lee Construction Co. . .	40	1 00	-	35	40	-
*Easton-Raynham- Taunton . . .	Arute Bros., Inc. . .	30	2 00	1 00	-	40	20 00
E. Bridgewater . . .	Powers Bros. . .	30	2 00	80	25	35	12 00
*Essex-Gloucester . . .	Welch-Moynihan . . .	40	3 75	90	-	55	15 00
°Fairhaven . . .	Eastern Contracting Co. . .	40	2 00	1 00	40	40	15 00
Falmouth . . .	F. V. Lawrence . . .	25	25	80	-	30	20 00
Gosnold . . .	Otis R. Mann . . .	65	4 00	80	65	-	20 00
*Great Barrington . . .	L. Longhi & Sons . . .	92	-	1 50	50	70	18 00
Great Barrington . . .	C. B. Lindholm . . .	40	40	1 00	-	40	18 00
Halifax . . .	T. H. Hannaford . . .	-	25	-	-	-	-
Hancock . . .	J. Chesarone . . .	49	2 00	1 00	45	48	15 00
*Hatfield-Nor- thampton . . .	Kelleher Corporation . . .	45	1 50	90	10	60	17 00
*Lawrence- No. Andover . . .	J. E. Watkins Co. . .	85	85	75	-	50	17 00
*Leominster- Sterling . . .	R. H. Newell Co. . .	40	2 00	1 00	-	40	20 00
*Lexington . . .	Warren Bros. Rds. Co. . .	-	5 60	-	-	-	-
*Lexington-Lincoln . . .	B. Perini & Sons . . .	33	1 90	1 00	355	35	13 00
Littleton . . .	Middlesex Construction Co. . .	32	2 45	72	-	44	13 50
*Lowell-Tyngsboro . . .	E. H. Lewis . . .	50	3 00	50	-	65	15 00
*Lynn-Revere . . .	McClintic-Marshall Company . . .	-	-	-	1 00	-	-
°Newburyport . . .	Arute Bros. . .	-	-	1 40	-	60	9 00
°Newburyport . . .	G. A. Fuller Co. . .	42	3 50	2 00	-	45	10 60
°North Adams . . .	D. O'Connell's Sons . . .	44	2 00	1 25	34	65	14 00
No. Adams . . .	C. B. Lindholm . . .	35	3 00	1 00	-	40	18 00
°No. Adams . . .	C. B. Lindholm . . .	-	1 50	-	-	-	20 00
Norwood . . .	Simpson Bros. Corp. . .	30	2 00	1 40	-	60	15 00
Oak-Bluffs- Tisbury . . .	Rendle Constr. & Dock Bldg. Co. . .	45	5 00	1 00	43	-	-
Otis . . .	D. O'Connell's Sons . . .	60	3 00	-	60	60	-
*Palmer . . .	Kelleher Corporation . . .	40	1 25	1 25	-	50	14 00
Pelham . . .	Carlo Bianchi & Co. . .	45	1 75	1 00	35	45	16 00
Pittsfield . . .	John H. Walsh & Co. . .	35	25	75	30	30	14 00
Pittsfield . . .	C. B. Lindholm . . .	50	2 00	1 00	50	50	18 00
°Quincy- Weymouth . . .	V. Barletta Co. . .	30	2 00	1 00	35	50	12 00
Reading . . .	Charles Capone . . .	40	2 00	-	-	65	-

° Projects financed in whole by Federal funds.

* Projects under PWA (30% U. S.—70% State).

CONTRACT PRICES DEC. 1, 1933, TO NOV. 30, 1934

TOWN OR CITY	CONTRACTOR	EXCAVATION			BORROW		Plain Concrete Masonry (Cu. Yd.)
		Earth (Cu. Yd.)	Ledge (Cu. Yd.)	Trench (Cu. Yd.)	Ord. (Cu. Yd.)	Gravel (Cu. Yd.)	
*Revere . . .	M. McDonough Co. . . .	40	2 00	1 50	50	60	15 00
*Revere . . .	M. McDonough Co. . . .	30	4 00	1 50	40	70	12 00
*Revere Br. . .	Lackawanna Steel Constr. Corp. . . .	-	-	-	-	-	-
*Revere Br. . .	M. McDonough Co. . . .	-	-	-	-	-	-
*Richmond . . .	Green Island Construction Co., Inc. . . .	40	1 50	75	50	55	13 00
*Saugus . . .	M. McDonough Co. . . .	40	3 00	1 50	-	35	12 00
Scituate . . .	Lee Construction Co. . . .	30	2 50	1 00	30	42	15 00
Sheffield Br. . .	J. O. Averso	-	5 00	-	-	-	-
Sherborn . . .	Middlesex Con. Co. . . .	32	4 00	1 00	33	33	13 00
Southbridge . . .	G. Bonazolli & Sons . . .	30	3 00	85	-	69	18 00
*Stoughton . . .	Arute Bros., Inc. . . .	-	3 00	-	-	40	-
*Ware . . .	Kelleher Corp. . . .	40	3 00	1 25	-	50	15 00
Williamstown . . .	C. B. Lindholm	60	5 00	1 00	-	60	20 00
*Winchendon . . .	Kelleher Corp. . . .	50	1 25	1 25	-	60	-
*Worcester . . .	Coleman Bros. Corp. . . .	1 00	2 00	1 00	48	55	-

° Projects financed in whole by Federal funds.

* Projects under PWA (30% U. S.—70% State).

CONTRACT PRICES DEC. 1, 1933, TO NOV. 30, 1934

Asphalt (Gal.)	Concrete Surface (Cu. Yd.)	Broken Stone (Cu. Yd.)	Cable Guard Rail (Lin. Ft.	PIPE CULVERTS (Lin. Ft.)					Catch Basins (Each)	Reinforced Concrete Masonry (Cu. Yd.)	Reinforced Steel for Structure (Lb.)
				CLAY		REINF. CONCRETE					
				10 in.	12 in.	12 in.	15 in.	18 in.			
11	-	-	50	50	60	-	-	-	60 00	15 00	10
10	6 00	1 50	-	40	60	90	1 20	1 60	60 00	12 00	035
-	-	-	-	-	-	-	-	-	-	-	-
13	-	2 50	75	-	-	1 50	-	2 00	50 00	13 00	05
11	-	1 70	60	-	-	1 00	-	-	55 00	-	-
115	-	1 80	50	-	60	-	-	-	40 00	18 00	04
-	-	-	-	-	-	-	-	-	-	-	04
12	-	2 00	45	-	60	1 25	-	2 00	55 00	15 00	05
13	-	2 60	60	-	55	1 50	-	-	50 00	30 00	05
-	-	-	-	-	-	-	-	-	-	-	033
12	-	2 51	-	-	65	-	-	-	-	20 00	06
-	10 00	3 00	-	55	60	-	-	-	60 00	-	-
12	-	2 95	-	60	70	-	-	2 00	-	-	-
12	-	1 70	-	60	-	-	-	-	60 00	17 25	03

REGISTRY OF MOTOR VEHICLES

The 1934 statistics begin to show slow but steady increases in the various classes of applications handled. The demands on the Registry for information from records and data from the files continues to increase. An increase in court abstracts is called to attention this year, with a corresponding increase in revenue received from fines.

The activities of the Registrar of Motor Vehicles having to do with highway safety were continued, particularly the special attention over Saturday and week-ends and holiday periods. The Registrar of Motor Vehicles received the continued co-operation of the various safety committees and organizations, police and state officials having to do with highway safety.

The first annual rush for registration plates in the new building took place at the beginning of the fiscal year and the efficient and speedy manner in which it was possible to take care of the public in issuing plates during the trying days at the end of the year indicated that the arrangements made for this work in the new building were well planned. Although the public crowded in in great numbers during the last two days, and the lines were long, no person was required at any time to wait in line outdoors, but were inside the building either in the lobby or the basement, where standing in line was at least as comfortable as possible. A large detail of State Police contributed to the orderly procession of registrants to the proper counters for their plates.

The Registry has now completed over a year and a half in its new quarters and it is obvious to all that the facilities offered and office space provided will take care of the requirements of the Registry for a good many years.

An initial installation of the teletypewriter service was installed from the Boston office to the Worcester and Springfield branches. Such an installation has been talked of for several years and it is believed that this installation which was installed very late in the fiscal year will in a period of a very short time, a year or two at the most, result in extension of the teletypewriter service to all branches of the Registry of Motor Vehicles because the machine makes available almost instantly to the branch offices and the public using the branches all data or any portion of it that is needed from the records of the central office.

A few of the outstanding figures for the year, together with a comparison with the previous year, follow: —

	1933	1934
Motor vehicle certificates of registration issued	931,516	945,488
Compulsory insurance cancellation notices received	101,175	86,406
Licenses to operate issued	1,022,662	1,053,527
Examinations of applicants for licenses	74,988	83,031
Licenses and registrations revoked and suspended	78,431	52,505
Licenses revoked for driving under influence of liquor	4,274	5,717
Total number of applications handled	2,024,792	2,076,600
Gross receipts from fees	\$6,035,192.27	\$6,202,907.26

REGISTRATIONS OF PASSENGER CARS, COMMERCIAL VEHICLES AND MOTOR CYCLES

The following registration figures show a 1.44% increase in passenger registrations, a 1.58% increase in commercial registrations, and motor cycle registrations showed an increase of 34% over the previous year.

	1905	1915	1925	1929*	1933	1934
Passenger cars	4,889	90,580	663,858	905,636	819,987	831,853
Commercial vehicles	—	12,053	100,480	113,268	110,506	112,260
Motor cycles	553	9,520	10,333	6,168	1,023	1,375
Totals	5,442	112,153	774,671	1,025,072	931,516	945,488

* Peak year.

EXAMINATIONS FOR LICENSES

The system of examining prospective operators of motor vehicles was not changed in any respect during the year 1934, the appointment system being continued and the examination consisting of the usual demonstration on the highways,

a reading test, an eye test, and a test of the applicant as to his knowledge of the motor vehicle law. The number of persons examined has increased at the fifty-five examining points with the following results: —

	1933	1934
Operators passed	66,547	73,900
Operators unfit	6,966	8,037
Restriction removal, passed	2,371	1,765
Restriction removal, unfit	261	176
"Competency," passed	330	208
"Competency," unfit	21	37
Total examinations	76,496	84,123

BRANCH OFFICES

The branch offices of the Registry of Motor Vehicles are able to render practically the same service to the public that is rendered at the main office at Boston, except as to information from the records which records this year were made available to the Worcester and Springfield offices by the installation of teletype machines. Each branch office serves as a headquarters for the district in which it is located, both as to distribution of number plates and licenses and law enforcement.

The following table gives approximate figures showing the distribution of applications received at the branch offices and at the central office at Boston: —

APPROXIMATE DISTRIBUTION OF REGISTRATIONS, LICENSES, ETC.

	Regis- trations	First Licenses	License Renewals	Miscel- laneous	Totals
Boston:					
Counter	199,000	—	180,000	77,000	456,000
Mail	159,000	—	396,000	15,000	570,000
Examination	—	21,000	—	4,000	25,000
Pittsfield	23,000	2,500	19,000	6,000	50,500
Springfield	55,000	6,500	57,000	18,000	136,500
Greenfield	11,000	1,500	10,000	4,000	26,500
Northampton	12,000	1,000	11,000	4,000	28,000
Worcester	52,000	7,000	49,000	16,000	124,000
Fitchburg	19,000	1,500	17,000	5,000	42,500
Framingham	23,000	2,000	15,000	7,000	47,000
Lawrence	36,000	4,000	31,000	9,000	80,000
Lowell	24,000	3,500	23,000	6,000	56,500
Fall River	22,000	4,500	23,000	7,000	56,500
New Bedford	15,000	2,500	26,000	7,000	50,500
Lynn	52,000	7,000	47,000	16,000	122,000
Quincy	34,000	5,500	35,000	12,000	86,500
Brockton	38,000	5,000	33,000	13,000	89,000
Hyannis ³	12,000	2,000	7,000	3,000	24,000
Totals	786,000 ²	77,000	979,000	229,000 ¹	2,071,000

¹ This figure includes approximately 159,000 number plate reissues.

² Does not include reissues (see Miscellaneous).

³ Includes Oak Bluffs and Nantucket.

During the year the branch office at Brockton was moved to a new and better location where the facilities offered have been found to be extremely satisfactory.

COMPULSORY MOTOR VEHICLE LIABILITY INSURANCE

The following figures show the volume of papers received and notices mailed in connection with the carrying out of the law regarding compulsory motor vehicle liability insurance.

Causes for Cancellation of Policies:	1933	1934
For non-payment of premiums	70,564	56,901
For other reasons	30,611	29,505
Total	101,175	86,406

Origin of requests for Cancellation of Policies:

Insurance companies	97,877	80,550
Finance companies	3,298	5,856
Total	101,175	86,406

Disposition of applications for cancellations:

Replacement certificates, adjusting cancellations	8,194	7,046
Reinstatements, adjusting cancellations	45,000	40,550
Sets of plates returned before effective date of cancellation	13,000	10,432
Revocations	34,981	28,378
Total	101,175	86,406

Return of Plates:

Returned promptly after revocation	22,048	16,481
By Police	5,955	5,060
By Inspectors of Registry	3,173	2,465
Not returned	3,805	4,372
Total revocations	34,981	28,378

PROPERTY DAMAGE

Under the provisions of Section 22A of Chapter 90 General Laws, which became effective September, 1932, the Registrar may, upon receipt of evidence satisfactory to him, suspend the license of any operator who has failed to satisfy a judgment rendered against him after sixty days in any case in which such operator is the defendant in an action brought to recover damages for injuries to property arising out of the use, operation or maintenance on the ways of the Commonwealth of a motor vehicle or trailer.

The following figures indicate the number of cases in which successful plaintiffs availed themselves of the additional facilities provided in the new law for recovering damages and the action taken thereon.

Complaints received	344	410
Releases received, no action being necessary	81	82
Licenses or right to operate suspended	263	328
Licenses or right to operate reinstated after suspension	59	138

AIRCRAFT

A brief resumé of the 1934 report of the Aeronautical Branch will show what is more important than anything else, a decided decrease in the number of fatal accidents, which has been cut in half, and also a decrease in the number of persons killed from 10 to 6 over the year 1933. The "no injury" accidents remain the same. Although there is a slight increase in the personal injury accidents, it is not discouraging when the detailed report on file is examined as it shows that practically all the injuries, with the exception of two, were of a very minor nature.

The noticeable drop in the number of pilots from 357 to 273 in the Commonwealth does not necessarily mean a wane in the flying activities as it will be seen that there is a slight addition over the previous year in the number of airplanes. We believe that perhaps there are fewer new pilots, which may be due partly to the recent economic conditions and also, in a great measure, to stricter requirements for the coming flyers.

Worthy of particular note also is the fact that the department has been complimented on its co-operation with the Federal Government in the development of certain fields and airports under ERA projects.

Lastly, a very extensive air marking program has been worked out in which it is planned to make Massachusetts again one of the leaders in aviation progress.

The following figures summarize the work of the Aviation Section:

	1933	1934
Pilots' licenses issued	21	13
Pilots' permits issued	336	260
Pilots examined by flight tests	10	7

P. D. 54		61
Pilots checked	346	275
Aircraft registered	27	22
Aircraft permits issued	231	242
Aircraft inspected	269	315
Duplicates and certified copies issued	4	6
Fees received	\$492	\$376
Suspensions of licenses and rights to fly	27	38
Aircraft grounded	71	76
Reinstatements of licenses, rights and groundings	66	81
Court prosecutions	2	0
Rulings promulgated	2	1
Airports approved	1	0
Airports disapproved	1	1
Surveys of fields	84	86
Investigations by aircraft inspectors	896	1,116
Airplane accidents	53	53

	1933	1934
Fatal accidents	6	3
Personal injury accidents	9	12
No injury accidents	38	38
Persons killed	10	6
Persons injured	15	20

Ground accidents	1933	1934
Personal injury accidents	1	0
No injury accidents	4	13
Persons injured	1	0

INSPECTION OF MOTOR VEHICLE EQUIPMENT

The fifth periodic inspection of the safety equipment of all motor vehicles registered in the commonwealth was held during the year 1934. The work was carried on by a permanent organization of Official Inspection Stations designated by the Registrar. Most of these stations have now been functioning for a period of five years and performed the work honestly and efficiently.

The results of the inspection confirmed the conclusions reached by former experience, namely, that one inspection per year cannot be expected to secure the desired results. Therefore, new regulations were adopted, effective January 1, 1935, providing for two inspections per year to be held during the months of May and September.

During the year approximately 784,000 cars were inspected. The result may be summarized as follows:

Total number of cars inspected	784,000
Total O.K. without repair or adjustment	282,240—36%
Total requiring replacement or adjustment	501,760—64%

Repairs or adjustments on the 501,760 vehicles requiring correction of defects in equipment were as follows:

Brakes	282,240—36%
Lights	462,560—59%
Horn	14,896—1.9%
Muffler	6,272—0.8%
Steering Gear	13,328—1.7%
Windshield Cleaner	16,464—2.1%
Number Plates	3,920—0.5%

School Bus Inspections

All the school buses operated in Massachusetts under contracts with cities or towns, or owned by cities or towns, were examined by inspectors of this department five times during the year as required by Chapter 271 of the Acts of 1932.

These inspections were held during the first weeks of January, March, May, September and November. In each case, about eight hundred vehicles were inspected at 70 designated examining points. Because of the provisions of the law, complete compliance with its equipment requirements cannot be insisted upon until the termination of all transportation contracts existing on August 26, 1932. In general, however, school bus equipment has improved considerably since the first inspection held in October, 1932, and many new buses have been put in operation to take the place of vehicles which failed to meet the requirements of the Act.

Brakes, Lights and Overloads

Sixteen men were regularly assigned to equipment work. Besides their duties in connection with the periodic inspections of motor vehicles and school buses, including the supervision of over 2,000 Official Inspection Stations, these men did considerable road work in enforcing equipment requirements. 1,640 vehicles were reported for defective brakes; 20,194 for defective lights. 301 registrations were suspended or revoked because of dangerously defective equipment. In addition, 565 owners were sent warning notices because of overloading and 41 registrations were revoked for this cause. Equipment inspectors also reported 2,145 cases of improper operation for action by the Registrar and 2,054 cases of violation of laws and regulations regarding equipment, dimensions of vehicles, etc. In addition, 5,259 notices were sent to owners whose cars were reported as not inspected and 674 hearings were held for the same reason.

Headlamps, Rear Lamps and Reflex Reflectors

No new headlamps were approved but several extensions of approval were granted during the year. Sixteen new tail lamps and six new rear red reflectors were approved during the year.

MOTOR VEHICLE DEATHS, INJURIES, COLLISIONS

Deaths caused by motor vehicles in 1934 numbered 921, an increase of 152 or 19.7% as compared with the record of the previous year. A comparative table of classified fatalities, injuries and collisions in the years 1933 and 1934 is as follows:

Motor Vehicle Accidents to Persons

	Persons Killed		Persons Injured	
	1933	1934	1933	1934
Pedestrians by autos	425	529	15,180	15,761
Pedestrians by motorcycles	0	0	26	41
Pedestrians near street cars	8	5	35	24
Occupants of autos	277	313	31,325	35,187
Occupants of autos at R. R. crossings	17	20	18	46
Occupants of motorcycles	9	14	184	173
Bicycle riders	17	16	920	950
Occupants horse-drawn vehicles	6	4	193	226
Coasters on sleds	6	18	235	537
Coasters on wheels	4	2	133	110
Totals	769	921	48,249	53,055
	Children Killed		Children Injured	
	1933	1934	1933	1934
Boys	115	120	7,062	6,891
Girls	39	60	3,599	3,744
Totals	154	180	10,661	10,635

Number of Collisions

	1933	1934
Collision with pedestrian	15,428	15,888
Collision with automobile	20,118	22,015
Collision with horse-drawn vehicle	263	285
Collision with railroad train	23	37
Collision with street car	342	352
Collision with fixed object	2,375	2,299
Collision with bicycle	943	970
Non-Collision (overturn)	774	804
Collision with motorcycle	246	229
Collision with sled	211	481
Collision with animal	86	103
Coaster on wheels	134	112
Totals	40,943*	43,575
In the daytime	24,871	25,283
After dark	16,072	18,292
Totals	40,943*	43,575

* Apparent discrepancy between this figure and the number of collisions shown in 1933 report (40,216) is due to the change in policy in counting fatal accident collisions.

ACCIDENT REPORT LETTERS

As provided by section 26, chapter 90, General Laws, every operator of a motor vehicle in any manner involved in an accident in which any person is killed or injured is required to report in writing to the Registrar. The number of these formal accident reports received from operators in 1934 was 46,651 as compared with 44,869 received in 1933. Under the requirements of section 29, chapter 90, General Laws, 19,895 similar reports of accidents were received from Police Departments throughout the State in 1934 as against 18,991 received in 1933. In addition, in connection with this reporting of accidents by operators during the year 1933 there were received 12,318 letters and complaints reporting faulty operating. During the year 1934, these letters and complaints numbered 11,115.

COMPARATIVE STATEMENT OF YEARLY REGISTRATIONS, LICENSES, DEATHS, INJURIES, REVOCATIONS AND SUSPENSIONS

Year	Automobiles Registered	Motor-Cycles Registered	Total Registrations	Number of Persons Killed	Number of Persons Injured	Licenses Issued	Total Suspensions and Revocations	For Operating Under Influence of Liquor
1910	31,360	3,358	34,718	77	963	41,259	283	22
1911	38,907	3,658	42,565	110	1,248	51,950	360	14
1912	50,132	5,034	55,166	142	1,962	66,645	546	56
1913	62,660	7,127	69,787	188	2,923	81,034	608	87
1914	77,246	8,161	85,407	229	4,010	99,532	8,580	131
1915	102,633	9,520	112,153	294	6,197	133,935	1,153	202
1916	136,809	10,713	147,522	315	9,131	171,596	1,396	320
1917	174,274	11,065	185,339	438	7,282	214,229	1,831	485
1918	193,497	12,862	206,359	499	8,598	235,140	2,343	553
1919	247,183	13,698	260,881	582	16,287	297,968	2,156	554
1920	304,538	15,142	319,680	481	21,182	261,539	2,944	888
1921	360,731	12,058	372,790	544	11,487	380,519	4,899	1,508
1922	449,838	11,675	461,513	522	15,277	444,173	8,369	2,460
1923	566,150	11,733	577,883	578	16,217	536,819	11,613	3,333
1924	672,315	10,778	683,093	709	19,579	620,439	14,154	4,395
1925	764,338	10,333	774,671	755	25,736	698,378	16,249	4,654
1926	826,224	9,215	835,439	705	25,351	763,951	18,705	4,863
1927	819,703	7,245	826,948	693	31,721	814,094	31,252	4,983
1928	883,595	6,656	890,251	715	42,201	870,160	40,814	5,071
1929	1,018,904	6,168	1,025,072	777	46,111	944,338	53,133	5,381
1930	1,008,476	4,642	1,013,118	795	44,279	982,795	52,954	5,052
1931	1,006,808	3,068	1,009,876	793	48,837	1,024,304	63,841	5,535
1932	921,909	1,661	923,570	768	47,658	1,014,635	73,511	4,824
1933	930,493	1,023	931,516	769	48,249	1,022,662	78,431	4,274
1934	944,713	1,375	946,088	921	53,055	1,053,527	52,505	5,717

INVESTIGATIONS AND PROSECUTIONS BY INSPECTORS

Investigations were made under the direction of the Chief Inspector relative to fatal and nonfatal accidents, violations of the laws concerning brakes and headlights, inspection of garages, miscellaneous complaints, and the prosecution of motorists in court. The table below shows the wide range of these activities of the inspectors, and reveals an increase in the total number of cases handled.

Classification of Reports

	1933	1934
Accidents, fatal	729	848
Accidents, nonfatal	5,457	5,406
General reputation	6,933	6,649
Miscellaneous	12,437	13,799
Totals	25,556	26,702
Complaints filed	12,537	14,287
Garages	8,964	9,700
Headlights	24,031	21,295
Prosecutions	655	1,004
Amount of fines	\$21,263	\$26,158

Revocations and Suspensions

	1933	1934
Licenses suspended	10,551	10,818
Licenses revoked	2,996	4,205
Rights suspended or revoked	4,402	5,133
Certificates suspended	1,127	1,592
Certificates revoked	57,802	28,549
Certificates and licenses suspended	17	27
Certificates and licenses revoked	1,359	1,947
Certificates revoked and rights suspended	107	141
Rights in Massachusetts suspended	70	93
Totals	78,431	52,505
Resulting from investigations	12,577	12,541
Resulting from Court convictions	7,603	9,886
Resulting from Police complaints	1,401	1,578
Resulting from Judges' complaints	25	8
Resulting from State Police complaints	104	116
Resulting from Insurance cancellations	56,721	28,376
Totals	78,431	52,376

Character of Offenses

	1933	1934
Reckless and endangering life	1,572	1,570
Liquor convictions	3,601	4,927
Going away after accidents	332	388
Without authority	726	705
Racing	2	4
Improper person	5,059	5,330
Improper person, liquor	673	790
Improper operation	6,874	6,962
Two overspeeds	58	38
Three overspeeds	9	6
Insurance cancellations	56,721	28,376
Insurance convictions	387	335
Improper equipment, miscellaneous	193	147

P. D. 54		65
Improper equipment, lights	334	103
Improper equipment, brakes	369	278
Failure to display stickers	181	73
Fatal accidents	734	847
Property damage cases	229	325
Other offenses	362	262
New Parking violations	—	999
Overloading trucks	15	40

Totals	78,431	52,505
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Formal hearings	7,103	8,703
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Court recommendations adopted:—

Reckless and endangering	30	32
Going away after accidents	5	5
Without authority	0	0
Allowing improper person to operate	0	0

Totals	35	37
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Persons whose licenses were suspended or revoked and who had to pass examination in order to have them returned	3,725	3,621
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ANALYSIS OF COURT ABSTRACTS RECEIVED

	1933	1934
Number of courts forwarding abstracts	95	95
Total abstracts received	46,381	48,443
Number of abstracts recording convictions	31,791	32,034

Offenses

(Analysis of convictions, not including appeals)

	1933	1934
Overspeeding	9,453	7,565
Reckless	10	8
Operating under influence of liquor	3,334	5,306
Using auto without authority	925	1,334
Endangering lives	1,642	2,499
Not stopping after causing injury	571	908
Without license	2,600	2,795
Without registration certificate	704	580
Unregistered vehicle	386	398
Improper display or no register number	155	147
Refusing to stop on signal	431	271
Unlighted lamps	444	376
Not signalling	1	3
Operating within 8 feet of street car	115	54
Violation of Metropolitan Park rules	169	292
Operating after suspension or revocation of license	559	657
Larceny	129	358
Manslaughter	1	1
Miscellaneous	1,512	1,303
Lenses not approved	1	0
No reflector	7	0
Racing	4	5
Operating after registration certificates revoked	11	2
No rear light	45	20
Not displaying lights	31	36
Passing red light	522	484
Improper lights	212	157
Brakes not as required by law	226	209

Violation of insurance law	447	408
Not slowing down approaching pedestrian	19	18
Not slowing down at intersecting way	5,015	3,980
Violation of law of road	1,986	1,723
Perjury—Making false statements on license application, falsely impersonating or conspiring to obtain a license	18	40
Loaning a license to another	13	5
Allowing intoxicated person to operate	6	4
Attempted larceny	34	33
Allowing improper person to operate	53	55
Totals	31,791	32,034

USED CAR SECTION (Motor Vehicle Identification)

The following is a resumé of the work accomplished by the Used Car Section which indexes, under engine numbers, all motor vehicles registered and reported stolen, and checks reports of sales of used cars against the stolen-vehicle records. Dealers' and repairmen's plates and registration certificates are issued by this section.

The work of the section is summarized in the following tables: —

Dealers

	1933	1934
Total number of first class dealers reporting	1,135	1,178
Total number of second and third class dealers reporting	519	568
Total number making reports to this office	1,654	1,746

Reports

Approximate number of notices of intended sales received daily	280	309
Approximate number of dealers' reports received daily	878	953

Motor Vehicles Stolen

Number stolen in Boston	5,108	5,121
Number stolen in Massachusetts (including Boston)	9,743	7,427
Number reported stolen from various sources throughout the country, including Massachusetts	25,505	21,868
Number of motor vehicles recovered through information furnished by this office	368	385

Engine and Serial Numbers

Engine numbers assigned to cars	15	16
Certificates issued authorizing the replacement of engine numbers	370	588
Certificates issued authorizing the replacement of serial numbers	470	252
Certificates issued authorizing the replacement of both engine and serial numbers	15	16
Total number of authorization certificates issued	855	856

EASTERN CONFERENCE OF MOTOR VEHICLE ADMINISTRATORS

Two meetings of the Motor Vehicle Administrators were held in 1934, one in New York and the other in Chicago. No representatives of the department attended the meetings of the Conference.

ANALYSIS OF RECEIPTS

The fees received for the year 1934, together with the number of certificates of registration issued in each classification and the number of licenses granted, etc., are shown in the following table:

Certificates of Registration:

Passenger cars (including taxicabs)	827,719	\$2,454,006	22
Commercial cars	112,260	1,239,731	75
Busses	4,134	97,221	15
Trailers	752	27,621	00
Motor cycles	1,375	1,895	15
Manufacturers or Dealers (including repairers)	2,632	7,896	00
Manufacturers or Dealers additional cars (including repairers)	17,998	53,934	00
Licenses to operate:			
Original licenses	74,908	149,775	00
Renewal licenses	978,619	1,956,936	50
Examinations	67,590	\$135,180	
Re-examinations	15,441	15,441	
Total examinations	83,031		150,621 00
Copies of certificates and licenses furnished	36,526	36,524	00
Duplicate number plates furnished	11,556	11,556	00
Miscellaneous receipts, process fees, etc.		15,189	49
Total amount of fees		\$6,202,907	26
Motor vehicle fees rebated (deducted)		64,438	07
Net fees		\$6,138,469	19
Court fines received by the Treasurer and Receiver-General		431,413	19
Total receipts (not including gasoline tax*) credited Highway Fund Account, 1934		\$6,569,882	38

* Receipts from gasoline tax are credited to the Highway Fund but collected through agencies other than the Registry.

EXPENSES OF THE REGISTRY OF MOTOR VEHICLES

The cost of running the Registry of Motor Vehicles for the year 1934 was \$1,357,509.98, which was 22% of the net fees collected. This cost, deducted from the receipts for the year, left the sum of \$5,212,372.40 available for legislative appropriation for highway work.

ANALYSIS OF EXPENDITURES FOR THE FISCAL YEAR 1934

Payrolls

Personal Services:

Regular payroll	\$882,067	06
Overtime payroll	6,345	43
		<hr/>
		\$888,412 49

Expenses

Supplies:

Books, maps, etc.	\$794	23
Typewriter supplies	1,388	98
Adding machine repairs and supplies	57	82
Other supplies	2,500	70
Stationery	16,364	10
Typewriter repairs	168	43
Other repairs	899	81
		<hr/>
		\$22,174 07

Equipment and Furniture:

Typewriter machines	\$6,485	04
Adding machines	286	65
Other machines	2,213	77
Desks	1,061	80
Bookcases, tables, etc.	751	50

Filing cabinets	2,412 31	
Chairs	663 31	
Dictograph	4,939 10	
Expenses incurred by moving to new buildings	3,324 73	
Branches—Counters, Safe	2,942 33	
Headlight and Brake Testing Expense	959 58	
Uniforms	5,308 87	
		\$31,348 99
Traveling Expenses:		
Officials	\$1,981 40	
Employees	17,567 63	
Aviation	3,173 44	
Automobiles (owned by employees)	74,591 33	
Automobiles (owned by State):		
Maintenance of 12 automobiles	4,020 59	
Exchange of 5 automobiles	2,923 55	
Purchase of 1 automobile	607 54	
		\$104,865 48
Other Services and Expenses:		
Expressage	\$2,581 81	
Postage	80,093 67	
Paper for printing	7,872 22	
Printing:		
Other reports	1,761 91	
Other printing	7,404 63	
Telephone	1,307 11	
Premium on Bonds of Employees	467 27	
Rent	525 00	
Cleaning and Janitor Services	722 00	
Labor	584 10	
Number plates	158,772 37	
Direct Mail Lists	11,000 00	
Sundries	401 96	
Branch Offices:		
Rent, Telephone, Lighting	27,626 75	
Labor and Services	5,656 53	
Supplies and Express	3,381 66	
		\$310,158 99

Publicity for Safety Work

Labels	\$549 96	
		\$549 96
		\$1,357,509 98

Summary

Payrolls	\$888,412 49
Expenses	468,547 53
Publicity for Safety Work	549 96
	\$1,357,509 98

RELATING TO WATERWAYS AND PUBLIC LANDS
BOSTON HARBOR

The Commonwealth Flats at South Boston

Commonwealth Pier 5

The work required to maintain the pier in effective operation has been continued during the year. Repairs have been made to gangways and floating fenders, to piles and fender cappings, to roofing, flashing, downspouts and sash, to the sprinkler system, to elevators and elevator machinery and to the heating plant.

Under contract of June 6, 1933, with A. A. Hersey and Son Company for driving piles and repairing the timber platform, work was completed Dec. 18, 1933, at a contract cost of \$3,779.05.

The cleaning and painting of all exterior structural steel work on the sides and outer end of the pier, under contract of Sept. 20, 1933, with Louis P. Steensen was completed Jan. 17, 1934, at a contract cost of \$3,447.49.

Work under contract of Nov. 23, 1933, with Maurice M. Devine, Inc., for replacing steel sash and broken lights of glass in the lower windows of the light wells, was completed Apr. 9, 1934, at a contract cost of \$9,173.80.

The installing of sixteen elevator gates upon four elevators, under letter contract of Nov. 21, 1933, with George T. McLauthlin Company, was completed Mar. 6, 1934, at a contract cost of \$2,400.

Work under contract of Sept. 26, 1933, with the Bay State Dredging and Contracting Company for dredging to a depth of 35 feet at mean low water to widen the approach to the east berth, was completed Feb. 19, 1934, at a contract cost of \$14,418.76.

A letter contract was made on Jan. 2, 1934, with Waghorne-Brown Company for repairing the shaftways of four elevators. Work was completed Jan. 31, 1934, at a contract cost of \$794.

On May 31, 1934, a contract was made with George T. McLauthlin Company for furnishing and installing new electric magnet brakes and appurtenant equipment and for repairs to east elevator No. 3. This work was completed Aug. 15, 1934, at a contract cost of \$875.

A letter contract was made on Aug. 7, 1934, with the American Chain Link Fence Company for two sets of metal gates at the entrances to the pier platforms. The work was completed Sept. 29, 1934, at a contract cost of \$320.

On Sept. 4, 1934, a contract was made with the Columbia Cornice Company for furnishing and installing thirty 16-inch and thirty 12-inch copper ventilators in the roof of the passenger shed, at the following contract prices: for each ventilator 16 inches in diameter furnished and installed \$27; for each ventilator 12 inches in diameter furnished and installed \$25. The work was completed Oct. 4, 1934, at a contract cost of \$1,560.

A contract was made on Oct. 30, 1934, with W. H. Ellis and Son Company to include repairs to pile and timber platforms at the pier. This work is now in progress.

On Nov. 7, 1934, a contract was made with the Atlantic Roofing and Skylight Works to include repairs to roof coverings at the pier. This work is now in progress.

A contract was made on Nov. 13, 1934, with John S. Leonard, to paint doors and sash in the Headhouse for the lump sum of \$285. This work is now in progress.

On Nov. 13, 1934, a contract was made with Maurice M. Devine, Inc., to replace existing steel sash and broken glass in the lightwells at the pier, at the following contract prices: for each light of glass furnished and set to replace broken glass 70 cents; for each new sash approximately 18 feet $4\frac{7}{8}$ inches by 9 feet $7\frac{3}{4}$ inches furnished and set in place \$112; for each new sash approximately 18 feet $4\frac{7}{8}$ inches by 8 feet $3\frac{3}{8}$ inches furnished and set in place \$90. This work is now in progress.

The contract made under date of June 13, 1934, with the Bay State Dredging and Contracting Company included the removal of a shoal area to widen the approach channel to the pier. At the completion on Aug. 20, 1934, of work under this contract a depth of 35 feet at mean low water had been provided over a larger area to ensure the safe and convenient access to the pier needed by the steamships using the east berth. The contract cost of this work was \$4,873.

A summary of freight and passengers using the pier in 1934 follows:

**FREIGHT AND PASSENGERS AT COMMONWEALTH PIER No. 5 DURING FISCAL YEAR
ENDING NOVEMBER 30, 1934**

Name of SS. Line	No. of Ships	In Freight		Total Tonnage	Out Freight		Total Ton- nage	Passengers		Total
		RR. (Tons)	Trucks (Tons)		RR. (Tons)	Trucks (Tons)		In	Out	
Am. Haw. SS. Co.	94	18,136	88,081	106,217	7,470	27,738	35,208	—	—	—
Luckenbach SS. Co. Inc.	66	5,981	57,889	63,870	4,481	17,770	22,251	—	—	—
Norton, Lilly & Co.	26	4,067	7,865	11,932	—	—	—	19	—	19
Cunard White Star	47	1,782	4,318	6,100	3,543	3,831	7,374	2,628	3,398	6,026
Canadian Nat. SS. Co.	77	51	913	964	—	—	—	2,435	2,282	4,717
Italian Line	14	—	224	224	29	81	110	—	1,839	1,839
Int. Mer. Marine	2	—	—	—	—	—	—	—	159	159
Byron SS. Co.	6	—	—	—	—	—	—	—	635	635
Hamburg-Amer. Line	2	—	—	—	—	—	—	134	147	281
TOTALS	334	30,017	159,290	189,307	15,523	49,420	64,943	5,216	8,460	13,676

DEVELOPMENT OF LAND SOUTH OF SUMMER STREET

The seven sections of Storehouse No. 1 on E Street have been occupied during the year by the Wiggin Terminals, Inc.

Under a letter contract of Aug. 15, 1934, with the Progressive Iron Works, Inc., repairs were made to the doors at a contract cost of \$252. Repairs to the roof of the building are included in a contract dated Nov. 7, 1934, with the Atlantic Roofing and Skylight Works. This work is now in progress.

CASTLE ISLAND BULKHEAD

The Federal Government in 1918, after buying the area on the northerly side of the Reserved Channel for the construction of the Army Supply Base, proceeded to deepen the Reserved Channel to depths of 30 feet and 35 feet at mean low water, and arranged with the Commonwealth to deposit the dredged material upon the flats owned by the State on the south side of this Channel. To retain this material a bulkhead was built by the Commission on Waterways and Public Lands to complete the enclosing of an area bounded northerly by the Reserved Channel, easterly by Castle Island, southerly by Pleasure Bay and Marine Park, and westerly by Farragut Road. The material placed back of this bulkhead increased the upland of the Commonwealth by about fifty acres.

Very little filling was deposited directly back of the bulkhead extending toward Castle Island. An inspection of this part of the structure in 1934 showed that so much of the sheet piling had been carried away that the section in question should be either removed or reconditioned.

It appeared to the Department advisable to remove the south-easterly end of the section and to use the best of the material so recovered for repairs to the remaining bulkhead.

A contract was made on Nov. 27, 1934, with John P. Cavanagh for removing about 980 linear feet of the southeasterly end of the bulkhead extending from the Reserved Channel toward Castle Island and for repairing designated portions of the remaining bulkhead and the bulkhead on the south side of the Reserved Channel. The contract prices for this work are: for removing existing bulkhead and disposing of all material except that used in repair work, \$2.75 for each linear foot of bulkhead removed; for repairing bulkhead by splicing and patching, \$40 for each thousand feet, board measure, of lumber placed in the work; for repairing bulkhead by driving sheeting in front of old sheeting, \$60 for each thousand feet, board measure, of lumber placed in the work; for refitting and securing piles, \$5 for each pile refitted and secured; for furnishing all ship spikes, bolts and washers, 15 cents for each pound used in the work. Under this contract no work has yet begun.

THE COMMONWEALTH FLATS AT EAST BOSTON
Aircraft Landing Field — Boston Airport

The greater part of the area reclaimed by the Commonwealth at East Boston continues to be occupied by the city of Boston as an airport. On Aug. 10, 1928, under authority of Chapter 64 of the Resolves of that year, the Department leased to the city approximately 5,717,000 square feet of land for this purpose.

The use of an additional area of 4,210,760 square feet was authorized by a lease executed July 14, 1930, in accordance with the provisions of Chapter 53 of the Resolves of 1930. The matter of the lease to the city of two additional parcels, one northeasterly of the areas leased in 1928 and 1930, the other southeasterly of the parcel leased in 1930, is still pending.

The use of these areas by the city is subject to certain rights of occupancy and use granted by lease of June 30, 1922, to the War Department, with an option of annual renewals extended to June 30, 1937, by a supplementary agreement of Dec. 27, 1926.

RECLAMATION OF FLATS

The work of dredging and filling at East Boston under contracts made by the Department for the purpose of reclaiming flats has been in abeyance since 1923. Between that year and Nov. 30, 1934, approximately 2,911,000 cubic yards of material dredged from various locations in the harbor have been deposited in the receiving basin. In the year ending Nov. 30, 1934, about 399,960 cubic yards were dumped upon flats northerly of Governor's Island. The Commonwealth has reclaimed approximately 150 acres of land at East Boston.

Under licenses granted for building bulkheads, dredging and filling, the city of Boston has reclaimed for the extension of the Airport about 140 acres.

COMMONWEALTH PIER 1, EAST BOSTON

This pier has been used and occupied by John G. Hall and Company, Inc., during the year, under the terms of the lease dated Nov. 6, 1933, and a renewal for a term of one year executed on Nov. 20, 1934.

Work under contract of Nov. 28, 1933, with the Waghorne-Brown Company for erecting and constructing sixteen steel sliding doors to replace wooden cargo doors, was completed Mar. 16, 1934, at a contract price of \$2,293.92.

The repairs authorized by contract of Nov. 28, 1933, with the Murray Engineering Company were not begun until Jan. 23, 1934. This contract provided for the replanking of the deck of the west platform; the furnishing and installing of three new cast-iron bollards on the west side of the pier; the replacing of about 200 linear feet of fender cap on the west side of the pier; the replacing of the entire shed siding to a height of approximately 3 feet above the deck, batten down doors not to be replaced, and the making of repairs to the wooden hood over the track where required; the respiking of the outer platform and fastening it firmly to the girder caps. This work was completed Apr. 7, 1934, at a contract cost of \$2,134.54.

The contract of Oct. 30, 1934, with W. H. Ellis and Son Company was made to include repairs to pile and timber work at this pier, as well as at Commonwealth Pier 5, South Boston.

On Nov. 13, 1934, a contract was made with Ray Wason for the construction and erection of 16 steel sliding doors 14 feet by 16 feet to replace wooden cargo doors, at a contract price of \$146 for each steel sliding door furnished and erected.

On Nov. 20, 1934, a contract was made with Waghorne-Brown Company for building a movable gangway on the east side of the pier at a contract price, for furnishing and erecting the gangway in place in complete working order, of the lump sum of \$1,844. Under this contract no work has yet begun.

Amount expended during the year, \$6,842.05. Income from the pier received during the year, \$8,141.90.

BOSTON HARBOR — REMOVAL OF ABANDONED HULKS OR WRECKS

Work under contract of Aug. 1, 1933, with John Forward for removal of hulks or wrecks from Chelsea Creek adjacent to Condor Street near Glendon Street, East Boston, was completed Apr. 30, 1934, at a contract cost of \$3,400.

The removal of several wrecks and debris from Chelsea Creek on property of the Boston and Lockport Block Company at East Boston, the Quincy Oil Company, Chelsea, and the site of the old Chelsea Ferry in Boston Harbor on property of Etta C. Lowell, was completed, under contract of Aug. 29, 1933, with the M & R Construction Company, on Nov. 27, 1933, at a contract cost of \$1,395.

By Chapter 162 of the Acts of 1934, an appropriation of \$5,000 was made to provide for the continuance of the work during the current year.

A contract was made on Sept. 18, 1934, with George M. Byrne for removing several wrecks and debris on property of George B. Fitzpatrick at Jeffries Point, East Boston, and on property of the city of Boston at Savin Hill Bay, Dorchester, at the following contract prices: for removing and disposing of wrecks and debris from property of George B. Fitzpatrick at Jeffries Point, East Boston, the lump sum of \$350; for removing and disposing of wrecks and debris from property of the city of Boston at Savin Hill Bay, the lump sum of \$1,295. Work was completed Oct. 10, 1934, at a contract cost of \$1,645.

To give as much relief as possible to unemployment, in accordance with the intent of the original appropriations made for this work, the hulks removed from tide water were placed by the contractors upon upland areas at South Boston and East Boston, and additional labor was employed by the Department to cut the material into lengths suitable for use as fuel. The greater part of this wood was then given away, as a part of the relief work, to individuals who were willing to remove it.

BOSTON INNER HARBOR

The work of dredging an area off the entrance to Fort Point Channel to a depth of 25 feet at mean low water under contract of Sept. 26, 1933, with the Bay State Dredging and Contracting Company, was completed Jan. 9, 1934, at a contract cost of \$27,166.51.

A contract was made on June 13, 1934, with the Bay State Dredging and Contracting Company for dredging three areas: an enlargement of the approach channel to Commonwealth Pier 5 to a depth of 35 feet at mean low water; an area adjacent to Northern Avenue Bridge to a depth of 20 feet at mean low water; and an area adjacent to Central and India Wharves to a depth of 28 feet at mean low water. The contract prices for this work were: for dredging and disposing of the dredged material in the first area \$1.10 per cubic yard, scow measurement; in the second area 43 cents per cubic yard, scow measurement; in the third area 45 cents per cubic yard, scow measurement; for removing and disposing of boulders within the three areas \$20 per cubic yard. This work was completed Aug 20, 1934, at a contract cost of \$20,975.28 for the dredging adjacent to Northern Avenue Bridge and to Central and India Wharves.

HOUGH'S NECK, QUINCY

By the provisions of Chapter 322 of the Acts of 1934, the Department is authorized to enter into an agreement with the city of Quincy for the construction by the city of a sea wall or other shore protection along the water front in the Hough's Neck section. The statute requires the work to be done under the supervision of the Department and in accordance with plans and specifications which it prescribes. For the purpose an appropriation of \$10,000 was made by the Legislature.

On August 14, 1934, an agreement was made with the city of Quincy for the construction by the municipality of a granite sea wall about 840 feet long with riprap protection along the base, and the building of two stone jetties. The Department is to pay one-half the cost of all labor other than that furnished by the Federal Government, one-half the actual cost of materials and tools furnished, and one-half the actual prices paid for rental of machinery and equipment employed in the work, provided the total amount paid by the Commonwealth does not exceed \$10,000. This work is now in progress, and about twenty-five per cent of the project has already been carried out.

MYSTIC RIVER DREDGING

The work of dredging in Mystic River above Malden Bridge under contract of Oct. 10, 1933, with the Bay State Dredging and Contracting Company, was completed Jan. 9, 1934, at a contract cost of \$12,714.10.

A contract was made on Sept. 11, 1934, with the J. S. Packard Dredging Company for dredging in this river to a depth of 20 feet at mean low water, a channel of varying width from a point about 1,000 feet below Malden Bridge to a point about 900 feet above, at the following contract prices: for dredging and disposing

of the dredged material 34.5 cents per cubic yard, scow measurement; for removing and disposing of boulders \$20 per cubic yard. This work is now nearly completed.

PLEASANT PARK, WINTHROP

The work of dredging a channel under contract of Nov. 28, 1933, with the Bay State Dredging and Contracting Company, was completed May 4, 1934, at a contract cost of \$12,389.58.

SOUTH BAY

The use of wharf property at South Boston by the Batchelder-Whittemore Coal Company was discontinued at the expiration on Mar. 31, 1934, of the lease of Mar. 3, 1924, from the Commonwealth. This property is now available for rental.

STONY BEACH, HULL

During 1933 the town of Hull and the County of Plymouth complied with the requirements of Chapter 330 of the Acts of 1933, relative to the protection of Stony Beach from erosion by the sea.

On Feb. 14, 1934, a contract was made with Bradford Weston to rebuild the present riprap dike for the protection of the shore for a length of approximately 2,375 linear feet, to rehandle existing stone and to place new stone at the following contract prices: for each ton of stone riprap furnished and placed in the complete work \$1.00; for rehandling all existing riprap \$200. Work was completed Aug. 18, 1934, at a contract cost of \$14,895.62. Toward the cost of this shore protection a contribution of \$4,000 each was made by the town and the county in accordance with the provisions of said Chapter 330.

WINTHROP HARBOR, WINTHROP

A contract was made on May 9, 1934, with the Bay State Dredging and Contracting Company for dredging a channel 60 feet wide on the bottom and about 3,800 feet long to a depth of 9 feet at mean low water, at the following contract prices: for dredging and disposing of the dredged material 42.5 cents per cubic yard, scow measurement; for removing and disposing of all boulders \$20 per cubic yard. This work was completed June 15, 1934, at a contract cost of \$14,017.35. Toward this cost a contribution of \$3,375 was made by the town of Winthrop.

MARINE BORERS

Early in the year Frank C. Shepard, Consulting Engineer of the Boston and Maine Railroad, suggested that the Department of Public Works assist the New England Railroads and others in the investigation of the action of marine borers along the New England coast.

This investigation is being carried on by a committee of railroad and waterway engineers called the "New England Committee on Marine Piling Investigation," of which Frank C. Shepard is Chairman, and Dr. William F. Clapp, Biologist.

As a means of determining the activity of the borers, test boards have been placed at different locations along the coast from New York to Eastport, Maine.

These test boards consist of a board 2" x 12" x 6' 4" long to which at intervals, 9 small blocks 6 inches square by 4 inches thick are bolted. With the exception of the middle block, called the control block, the blocks are numbered from 1 to 8 inclusive. The board is set with the bottom about 2 feet above the mud line. At intervals of one month, one numbered block and the control block are removed and sent to the laboratory of Dr. Clapp at Duxbury for examination. The blocks removed are replaced by new ones.

To help this investigation, the Department has placed four test boards in Boston Harbor at the following locations: Temporary bridge over Weymouth Fore River, at Quincy Point; Commonwealth Pier 5, South Boston; Commonwealth Pier 1, East Boston, and at the wharf owned by the Commonwealth in South Bay, Roxbury.

On Oct. 17, 1934, a letter contract was made with C. Ray Norris, diver, for making an examination of the foundation piles at Commonwealth Pier 1, East Boston, and Commonwealth Pier 5, and Grasselli Wharf, South Boston, at a cost

of \$29 per day, the contractor to furnish all labor, tools, appliances and equipment, except for diving scow and laborers to operate the air pumps furnished by the Commonwealth.

Under this contract 947 piles were examined at Pier 5, 252 piles at Pier 1, and 178 piles at Grasselli Wharf, at a contract cost of \$348.

Examinations of the foundation piles at Commonwealth Pier 5 have been made by the Department in the years 1925, 1932 and 1934. The first examination showed about 55% of the piles examined were affected by the marine borers, the second examination about 90% so affected and the latest test 92%. From the examination made this year it appears that about 10% of the piles are now at least one-half destroyed.

CIVIL WORKS ADMINISTRATION AND FEDERAL EMERGENCY RELIEF ADMINISTRATION

Early in November, 1933, the State Civil Works Administration requested the Department to furnish a list of projects with an estimate of the amount of labor, materials and equipment that would be required to carry them out.

The following projects were approved by the Civil Works Administration and continued under the Federal Emergency Relief Administration.

- Project No. 671. Repairs to Commonwealth Structures in East Boston and South Boston. These repairs consisted of replacement of flooring, broken glass, roof repairs, repairs to siding, and other miscellaneous repairs at Commonwealth Pier 5, South Boston and Commonwealth Pier 1, East Boston.
- Project No. 673, and 6608-23. Painting rooms and offices at Commonwealth Pier 5, South Boston and offices at Commonwealth Pier 1, East Boston.
- Project No. 674, and 6608-16. The grading and levelling of the area for parking space on the northerly side of Nashua Street, the removal of debris from Commonwealth lands at South Boston and the grading of the areas.
- Project No. 676, and 6608-25. Riprap protection at Pemberton Sea Wall, Hull. Riprap washed away from the wall was placed against the toe of the structure for better protection against undermining.
- Project No. 964, and 6608-14. Removal of wrecks and bulks from Boston Harbor at Jeffries Point, East Boston, and Savin Hill Bay, Dorchester.

The following tabulation shows the number of man hours worked and the amount paid for labor, equipment and materials.

Project No.	Number of man hours worked	Amount paid for labor	Amount paid for equipment	Amount paid for materials	Miscellaneous costs	Total cost
671	4,178	\$2,195 20	—	\$285.65	\$38 65	\$2,519 50
673, 6608-23	8,736	4,276 32	—	142 82	—	4,419 14
674, 6608-16	25,472	13,231 00	—	128 73	38 65	13,398 38
676, 6608-25	12,148	6,431 80	\$490 27	42 00	629 03	7,593 10
964, 6608-14	46,402	25,478 75	15,249 00	208 34	641 58	41,577 67
TOTALS	96,936	\$51,613 07	\$15,739 27	\$807 54	\$1,347 91	\$69,507 79

Of the total \$69,507.79 spent under the projects the labor and equipment, amounting to \$67,352.34, were paid for by the Civil Works Administration and the Federal Emergency Relief Administration and the materials and miscellaneous expenses amounting to \$2,155.45, were paid for by the Department of Public Works.

SHIRLEY GUT

Under the provisions of Chapter 19 of the Resolves of 1934, the Department is authorized to investigate the advisability of widening and deepening Shirley Gut in Boston Harbor between Winthrop and Deer Island. The Board has, accordingly, made both land and hydrographic surveys, a study of conditions now exist-

ing and of changes in the shore line and in the depths of water over the period from the earliest recorded survey to the present time. The results of this investigation are embodied in the special report to the General Court required by the terms of the statute.

SURVEYS

During the year surveys have been made in connection with the maintenance and operation of Commonwealth property and for the re-establishment of the harbor line in Chelsea Creek. Hydrographic surveys have been made in the Charles River, in the area between the main ship channel and the wharves along Atlantic Avenue, on the flats and in the receiving basin northerly of Governor's Island, in the approach channel to the east berth of Commonwealth Pier 5, in Pleasant Park Channel, Winthrop Harbor channel and portions of Mystic River.

RIVERS, HARBORS, TIDE WATERS AND FORESHORES OUTSIDE OF BOSTON HARBOR

For the improvement of rivers, harbors, tide waters and foreshores outside of Boston Harbor, in accordance with the provisions of section 11, chapter 91 General Laws, an appropriation of \$75,000 was made during 1934 with the following condition:

"provided, that all expenditures made for the protection of shores shall be upon condition that at least fifty per cent of the cost is covered by contributions from municipalities or other organizations and individuals and that in the case of dredging channels for harbor improvements at least twenty-five per cent of the cost shall be so covered."

An appropriation of \$22,500 was also available during the year for the maintenance of structures, and for repairing damages along the coast line or river banks of the Commonwealth, and for the removal of wrecks and other obstructions from the tide waters and great ponds.

Petitions were filed with the Department during the year for surveys and improvements in the following localities: Allens Harbor, Harwich; Bass River, Beverly; Bass River, Yarmouth; Connecticut River, Montague and Whately; Cotuit Harbor, Barnstable; Dennis shore protection at Dennisport, Swan Pond River and Taunton Avenue; Duxbury Harbor, Duxbury; Falmouth Heights, Falmouth; Hyannis Harbor, Barnstable; Jeremis Point, Wellfleet; Manomet Point, Plymouth; Nantasket Beach, Hull; Nobscusset Harbor, Dennis; Onset Bay, Wareham; Round Cove, Harwich; Sagamore Beach, Bourne; Singing Beach, Manchester; Stage Harbor, Chatham; West Bay, Barnstable; Yarmouth shore protection.

Public hearings have been held, certain estimates of cost made, but no work has been done to carry out the improvements petitioned for in Allens Harbor, Harwich; Bass River, Beverly; Connecticut River, Montague and Whately; Duxbury Harbor, Duxbury; Hyannis Harbor, Barnstable; Jeremis Point, Wellfleet; Nantasket Beach, Hull; Onset Bay, Wareham; Stage Harbor, Chatham; Yarmouth Shore Protection.

Information relating to work previously done in various rivers and harbors of the Commonwealth may be found in the annual reports of the Board of Harbor and Land Commissioners, the Commission on Waterways and Public Lands, the Division of Waterways and Public Lands of the Department of Public Works, and in the tables of the Appendix accompanying the present report. These reports show localities, character of work, appropriations and expenditures by the Commonwealth and certain appropriations and expenditures by the Federal Government.

An account of work done during the year 1934 for the improvement of rivers, harbors, tide waters and foreshores outside of Boston Harbor, follows:

BASS RIVER, YARMOUTH

Hearing was held on Jan. 10, 1934, on the petition of the Selectmen of Yarmouth for dredging the entrance channel in Bass River.

On May 15, 1934, a contract was made with the Bay State Dredging and

Contracting Company to include the dredging of the entrance channel to Bass River to a width of 60 feet on the bottom and a depth of 6 feet at mean low water, at the following contract prices: for dredging and disposing of the dredged material 49.5 cents per cubic yard, scow measurement; for removing and disposing of all boulders \$20 per cubic yard. The dredging under this contract was completed Aug. 27, 1934, at a contract cost for the work in Bass River of \$4,950. Toward this cost a contribution of \$2,500 was made by the town of Yarmouth.

Amount expended during the year, \$5,848.26. Total expenditure to Dec. 1, 1934, \$188,293.33.

CAPE COD CANAL LANDING PIER AT BOURNE

Work under contract of June 6, 1933, with the Durso Construction Company for the construction of a building upon this pier was completed Dec. 20, 1933, at a contract cost of \$22,375.42.

On Dec. 13, 1933, a contract was made with the Hibbert Plumbing Company, Inc., to furnish and install piping, radiators, unit heater, ducts, etc., to connect with the steam boiler installation in the building, at a contract price of \$573. The work was completed Feb. 19, 1934, at a contract cost of \$573.

After the completion of the construction and equipment of the pier the Department considered the establishment of permanent rates in substitution for the temporary charges in effect from Apr. 1, 1933. A public hearing was held to discuss this matter on Jan. 17, 1934.

Permanent rates were adopted by the Board on May 14, 1934, approved by the Governor and Council on May 16, 1934, and became effective on June 1, 1934.

The pier, now completed, is of solid fill construction, about 600 feet long, and provides a depth of 25 feet at mean low water in the dock. A light timber extension approximately 400 feet long is available as a tie up for vessels along the easterly side of the turning basin. The shed 36 feet wide and 200 feet long built upon the pier is of brick, steel and timber construction.

Amount expended during the year for construction, \$4,062.05, for operation and maintenance, \$4,545.82. Total expenditure to Dec. 1, 1934, for construction, \$262,424.72; for operation and maintenance, \$6,681.28.

CAPE POGE BAY, EDGARTOWN

The work of repairs and additions to the riprap and stone jetties at the outlet of Cape Poge Bay and the redredging of the entrance channel was adopted as a National Industrial Recovery project by the Federal Emergency Administration of Public Works and the State Emergency Public Works Commission in accordance with the plans and estimates made by the Department.

On June 26, 1934, a contract was made with the Bay State Dredging and Contracting Company to dredge the entrance channel 60 feet wide on the bottom and 6 feet deep at mean low water, to extend the southerly stone jetty and make repairs to the northerly stone jetty and to the riprap on the slopes of the dredged channel. The contract prices for this work were: for dredging and disposing of the dredged material 51 cents per cubic yard, scow measurement; for removing and disposing of boulders \$20 per cubic yard; for each ton of heavy stone riprap furnished in place in the completed work \$4.07; for each ton of stone chips furnished in place in the completed work \$4.07. This work was completed Nov. 5, 1934, at a contract cost of \$16,440.09.

Under this contract the southerly jetty has been extended about 100 feet and the channel redredged to a depth of 6 feet at mean low water and to width of 60 feet on the bottom.

Amount expended during the year, \$12,913.24. Total expenditure to Dec. 1, 1934, \$55,818.33.

CONNECTICUT RIVER

Hadley. During the spring freshet in Connecticut River a short section of the dike built in 1933 was overtopped by the flood and some damage done to the structure. The dike was repaired this year at a cost of about \$600.

Northfield. A small amount was expended this year at Northfield Farms to complete work begun under the provisions of the Federal Emergency Relief Administration C. W. A.

FEDERAL EMERGENCY RELIEF ADMINISTRATION

During the winter of 1933-1934 the Department co-operated with the Federal Emergency Relief Administration, C. W. A., in placing riprap upon the banks of the Connecticut River in Northampton, West Springfield, Hadley, Hatfield, Deerfield, Greenfield and Northfield. Toward the expense of these projects the Department contributed the cost of materials, equipment, and a part of the truck hire, in addition to providing for the supervision of the work. A brief description of the work done in the various localities follows:

At Northampton the west bank of the river was protected by placing 3,200 tons of riprap from the Northampton-Hadley Bridge southerly for a distance of about 610 feet.

At West Springfield 3,200 tons of riprap were placed upon the west bank of the river from the North End Bridge for a distance upstream of 1,463 feet.

At Hadley about 1,870 tons of riprap were placed for the protection of the river bank in the following locations: upon the east bank of the river from the Northampton-Hadley Bridge southerly for a distance of 165 feet; upon a section of the southerly bank of the river westerly of the northerly end of West Street for a distance of about 100 feet.

At Hatfield 1,660 tons of riprap were placed to protect the west bank of the river from a point 1,100 feet south of the Hatfield Ferry southerly for a distance of 510 feet.

At Deerfield the west bank of the river was protected from the Sunderland Bridge upstream for a distance of 557 feet. In Sunderland the east bank was protected from a point 1,300 feet south of the Sunderland Bridge for a distance of 250 feet downstream. The total amount of riprap placed was 4,754 tons.

At Greenfield 4,320 tons of riprap were placed upon the west bank of the river from the Montague Bridge downstream for a distance of 610 feet.

At Northfield the west bank of the river was protected by the placing of riprap in the following locations: From a point 260 feet above Schell Bridge for a distance of 315 feet upstream; from the Central Vermont Railroad Bridge downstream for a distance of 670 feet. At Northfield Farms the east bank of the river was protected by placing riprap from Ten Mile Brook upstream for a distance of 830 feet. The total amount of riprap placed in Northfield was 11,454 tons.

COTUIT HARBOR AND WEST BAY CUT, BARNSTABLE

On Jan. 10, 1934, hearing was held upon the petition of the Selectmen of Barnstable for redredging West Bay Cut and the entrance channel to Cotuit Harbor.

A contract made on May 15, 1934, with the Bay State Dredging and Contracting Company included the dredging at the entrance to Cotuit Harbor of a channel 100 feet wide on the bottom and 6 feet deep at mean low water, a channel west of Sampson's Island 200 feet wide on the bottom and 6 feet deep at mean low water, and the entrance channel to West Bay 100 feet wide on the bottom and 6 feet deep at mean low water. The contract prices for this work were: for dredging and disposing of the dredged material 49.5 cents per cubic yard, scow measurement; for removing and disposing of all boulders \$20 per cubic yard. Work under this contract was completed Aug. 27, 1934, at a contract cost of \$10,410.35 for the dredging in Cotuit Harbor and West Bay. Toward this cost a contribution of \$5,750 was made by the town of Barnstable.

Amount expended during the year, \$9,323.44. Total expenditure to Dec. 1, 1934, \$92,828.26.

DENNIS SHORE PROTECTION

Dennisport. On Jan. 10, 1934, hearing was held on a petition of Peter J. Haigis and others for the construction of a jetty for shore protection.

A contract was made on June 26, 1934, with Frederick V. Lawrence to build a stone jetty at a point opposite the Haigis property on the Dennisport shore at a contract price of \$2.90 for furnishing and placing stone riprap and granite chips in the jetty. On Sept. 18, 1934, under this contract, a stone jetty 125 feet long was completed at a contract cost of \$1,057.54. Toward this cost a contribution of \$600 was made by property owners interested in the work.

Taunton Avenue. On Apr. 11, 1934, hearing was held upon a petition of the

Selectmen of Dennis for the construction of two stone jetties near the end of Taunton Avenue.

A contract was made on July 17, 1934, with Thomas Whalen and Sons, Inc., to build two stone jetties on the shore at and westerly of Taunton Avenue at a contract price of \$2.42 for each ton of 2,000 pounds of granite stone riprap and granite chips furnished and placed in the completed work. Under this contract two jetties each about 175 feet long, were completed Sept. 8, 1934, at a contract cost of \$1,753.05. Toward this cost contributions of \$600 each were made by the town and county.

Swan Pond River. On Apr. 11, 1934, hearing was held upon a petition of the Selectmen of Dennis, and others, for the building of a jetty for shore protection at the mouth of Swan Pond River.

A contract was made on June 26, 1934, with Frederick V. Lawrence for building two stone jetties at and near the entrance to the river, at a contract price of \$2.53 for each ton of 2,000 pounds of stone riprap and granite chips furnished and placed in the completed work. Under this contract two stone jetties, one 300 feet long and the other 210 feet long, were completed Sept. 7, 1934, at a contract cost of \$3,239.67. Toward this cost contributions of \$875 each were made by the town and by the county.

West Dennis. Work under contract of Nov. 28, 1933, with Sidney W. Lawrence for building a stone jetty at Bathhouse Beach at property of the town, was completed Dec. 20, 1933, at a contract cost of \$1,395. Toward this cost contributions of \$375 each were made by the town and the county.

Amount expended for shore protection in Dennis during the year, \$9,122.47. Total expenditure to Dec. 1, 1934, \$10,063.27.

FALMOUTH SHORE PROTECTION

On Apr. 11, 1934, hearing was held on the petition of the Park Commissioners of Falmouth for rebuilding the sea wall at Terrace Gables, Falmouth Heights.

A contract was made on June 13, 1934, with Frederick V. Lawrence for placing stone riprap against the existing concrete sea wall, repairing the wall and placing back fill, at the following contract prices: for each ton of stone riprap furnished and placed in the completed work \$3.15; for furnishing material and constructing concrete repairs to the sea wall \$30 for each cubic yard of concrete measured in place in the completed work; for each cubic yard of material for back fill furnished, delivered and measured in place in the completed work, 75 cents. This work was completed Oct. 11, 1934, at a contract cost of \$2,168.12. Toward this cost a contribution of \$1,250 was made by the town of Falmouth.

Amount expended during the year, \$2,235.31. Total expenditure to Dec. 1, 1934, \$72,903.02.

HARWICH SHORE PROTECTION

On Dec. 6, 1933, a contract was made with Louis A. Byrne for building seven stone jetties on the beach east of Allens Harbor, for extending jetty and riprap at West Harwich Beach, and repairing jetty and riprap at South Harwich, at a contract price of \$2.74 for each ton of 2,000 pounds of stone riprap and granite chips furnished and placed in the completed work. This project was completed Mar. 8, 1934, at a contract cost of \$7,327.86. Toward this cost contributions of \$2,000 each were made by the town and the county.

Amount expended during the year, \$7,979.68. Total expenditure to Dec. 1, 1934, \$39,801.92.

MANOMET POINT, PLYMOUTH

In February the County Commissioners of Plymouth County asked assistance from the Department in protecting the shore along Manomet Point Road near the Coast Guard Station from the erosion threatening the roadway and the bluff. A survey was made and a plan prepared for shore protection to be carried out by the Board with the aid of contributions from the town and county.

A contract was made on Aug. 21, 1934, with M. J. Crowley for furnishing and placing about 4,250 tons of stone riprap and chips and about 7,200 cubic yards of back filling to protect about 550 linear feet of bank on the northerly side of Manomet Point. The contract prices are: for each ton of stone riprap furnished in

place in the completed work \$1.75; for furnishing material and filling bank back of the riprap 30 cents for each cubic yard of fill measured in place in the completed work. Under this contract work is now in progress.

Amount expended during the year, \$6,642.46. Total expenditure to Dec. 1, 1934, \$6,642.46.

MEGANSETT HARBOR, FALMOUTH

In May the Department received complaints from owners of boats relative to obstructions in the inner portion of the channel previously dredged at Megansett. A survey revealed that the channel originally dredged to a depth of 6 feet and a width of 60 feet had shoaled to a maximum depth of 3 feet and a width of about 20 feet.

A letter contract was made on June 13, 1934, with the Bay State Dredging and Contracting Company for dredging about 1,600 cubic yards of material to remove shoals from this channel, at a contract price of 68 cents per cubic yard. This work was completed July 10, 1934, at a contract cost of \$1,088. Toward this cost a contribution of \$600 was made by the town of Falmouth.

Amount expended during the year, \$1,343.18. Total expenditure to Dec. 1, 1934, \$53,459.84.

NAHANT SHORE PROTECTION

Under contract of Oct. 10, 1933, with the M. McDonough Company heavy stone riprap for the protection of the shore was placed for a length of 2,639 feet along the westerly side of Nahant Road from Wilson Road southerly to Castle Road and for a short distance parallel with Castle Road. The work was completed Feb. 14, 1934, at a contract cost of \$29,053.02. Toward this cost a contribution of \$15,000 was made by the town before the work began, in accordance with the requirement of Item 591a of Chapter 371 of the Acts of 1933.

Amount expended during the year, \$27,798.76. Total expenditure to Dec. 1, 1934, \$30,177.19.

NEW BEDFORD STATE PIER

Under lease of Apr. 27, 1933, a portion of this pier has continued to be occupied by the Lamport Manufacturing Supply Company, Inc. This indenture provides for the use by the Company of a specified part of the pier for a term of three years at a rental of \$5,500 per year.

The contract made Nov. 28, 1933, with the National Gunitite Contracting Company provided for removing the plaster walls on the north side of the wooden shed, replacing the walls with gunite, removing sliding doors, closing four doorways with gunite, furnishing and erecting three new overhead type doors and making repairs to the elevator shaft above the roof of the wooden shed by the gunite process. The contract prices for this work were: for removing plaster wall on the north side of pier and replacing it with gunite, including framing and new gunite in doorways and all incidental work, the lump sum of \$1,460; for placing new gunite surface one inch thick on exposed face of elevator shaft, and on inner and outer corners of steel shed, the lump sum of \$615; for furnishing and erecting two new steel sash in the elevator sash, the lump sum of \$50; for furnishing and erecting three doors of type specified complete and ready to operate, \$500. This work was completed Mar. 14, 1934, at a contract cost of \$2,663.13.

At the close of the year three steamship lines in coastwise traffic were making weekly calls at the pier, and in addition, occasional loads of lumber from the Pacific coast ports were unloaded. The facilities available are now in use to their full capacity and the demand is increasing for more space upon the pier for cargo.

Minor repairs to the pier have been made as usual during the year.

Amount expended for operation, maintenance and improvement during the year, \$7,014.72.

Income during the year, \$23,921.89.

Total expenditure for operation, maintenance and improvement to Dec. 1, 1934, \$80,543.01.

NOBSCUSSET HARBOR, DENNIS

Work under contract of September 19, 1933, with Sidney W. Lawrence for building two stone jetties west of Nobscusset Harbor; was completed Dec. 8, 1933, at a contract cost of \$2,081.71. Toward this cost a contribution of \$600 each was made by the town and the county.

On Dec. 21, 1933, a letter contract was made with Sidney W. Lawrence for placing 100 tons of stone riprap in front of a short section of timber breakwater at Nobscusset. This work was completed Jan. 13, 1934, at a contract cost of \$320. Toward this cost a contribution of \$160 was made by the town.

Hearing was held on Apr. 11, 1934, on the petition of the Selectmen of Dennis for reinforcing with heavy rock the westerly extension of the timber breakwater at this harbor, and for dredging the basin.

A contract was made on June 12, 1934, with Frederick V. Lawrence for repairing with stone riprap the westerly side of the breakwater and for excavating an anchorage basin 200 feet long and 90 feet wide on the bottom to mean low water in Nobscusset Harbor, at the following contract prices: for each ton of stone riprap furnished in place in the completed work \$2.60; for excavating and disposing of the excavated material 25 cents for each cubic yard measured in place and deposited in the disposal area. This work was completed Aug. 24, 1934, at a contract cost of \$1,724. Toward this cost contributions of \$500 each were made by the town and the county.

Amount expended during the year, \$2,393.57. Total expenditure to Dec. 1, 1934, \$43,778.79.

OAK BLUFFS SEA WALLS

A contract was made on May 31, 1934, with Frank A. Days and Sons for building a concrete sea wall about 520 linear feet in length at the Bathing Beach in Oak Bluffs at a contract price of \$16.45 for each cubic yard of concrete measured in place in the completed work. Under this contract the sea wall was completed July 24, 1934, at a contract cost of \$8,994.

On July 24, 1934, a letter contract was made with Merle C. Washburn for placing filling between the sea wall and the street. This work was completed Aug. 4, 1934, at a contract cost of \$1,571.44.

Toward the cost of this sea wall and of the filling a contribution of \$6,000 was made by the town.

A letter contract was made on Oct. 8, 1934, with S. M. Fisher for repairs to spur jetties along the beach northerly of the new wall and for the removal of an old jetty about 150 feet south of the Bath House. This work was completed Nov. 17, 1934, at a contract cost of \$520.

Amount expended during the year, \$12,003.66. Total expenditure to Dec. 1, 1934, \$160,679.24.

COMMONWEALTH PROPERTY AT PLYMOUTH

An appropriation of \$3,800 was made by the Legislature this year for the maintenance and repair of property at Plymouth acquired by the Pilgrim Tercentenary Commission and placed under the jurisdiction of the Department by vote of the Governor and Council on July 17, 1924.

The usual care has been given to the pier and the grounds during the year and minor repairs made as they became necessary.

The State Pier at Plymouth is now in a condition requiring extensive repairs unless its use for docking excursion steamers is to be discontinued and the public excluded from the premises. Investigation of the piling has shown a large amount of damage caused by marine worms, particularly by "teredo navalis." The Department believes that the entire pier should be removed to be replaced by a structure of creosoted timber and piles. While repairs might be made to allow the use of the present pier for another year, the state of the piling does not warrant a large expenditure for the purpose.

Amount expended during the year, \$3,515.74. Total expenditure to Dec. 1, 1934, \$51,572.22.

PROVINCETOWN HARBOR

Shore Protection. Early in the year the Department found repairs badly needed to the riprap placed in 1926 for the protection of the State Highway at Provincetown, and serious erosion threatening the recently completed scenic highway along the Bathing Beach on the Province Lands.

A contract was made on June 13, 1934, with Joseph W. Nickerson for repairing the riprap along the shore in front of the State Highway for a length of about 2,000 linear feet at the following contract prices: for each ton of stone chips furnished in place in the completed work \$2.75; for rehandling about 200 tons of heavy stone riprap and replacing it within the limits of the existing riprap the lump sum of \$49. This work was completed Aug. 15, 1934, at a contract cost of \$2,929.93.

On June 13, 1934, a contract was made also with Arthur K. Finney for building four stone jetties at the Bathing Beach on the Province Lands at a contract price of \$3.07 for each ton of stone riprap or chips furnished in place in the completed work. These jetties were completed September 25, 1934, at a contract cost of \$7,839.28.

Dredging. In May request was made by the Selectmen of Provincetown for the dredging of the berth at the end of the steamboat wharf to a depth of 15 feet at mean low water.

A letter contract with the Bay State Dredging and Contracting Company was made on June 25, 1934, for dredging three areas at the end of the steamboat wharf in Provincetown Harbor at a contract price of 85 cents per cubic yard, scow measurement. This work was completed June 29, 1934, at a contract cost of \$4,250. Toward this cost a contribution of \$2,500 was made by the town.

Amount expended for shore protection and dredging during the year, \$16,572.18.

Total expenditure for shore protection and dredging to Dec. 1, 1934, \$45,302.99.

PROVINCETOWN TERCENTENARY COMMISSION

During the year the land at Provincetown acquired by the Provincetown Tercentenary Commission and placed under the control of the Department June 23, 1926, has been cared for from funds appropriated for the use of the Province Lands. One employee of the Department has been kept at work during the summer to maintain this park in proper condition.

ROCK HARBOR CREEK, ORLEANS

On Jan. 10, 1934, hearing was held upon the petition of the Selectmen of Orleans for the construction of a bulkhead on the southerly side of the Rock Harbor Creek for the protection of a public highway.

A contract with Frank A. Days and Sons was made on June 26, 1934, for furnishing materials and building about 264 linear feet of creosoted timber bulkhead and platform in front of the existing bulkhead at Rock Harbor, at a contract price of \$28.92 for each linear foot of completed bulkhead and platform in place. This work was completed Nov. 2, 1934, at a contract cost of \$7,634.88. Toward this cost contributions of \$2,000 each were made by the town and the county.

Amount expended during the year, \$7,958.73. Total expenditure to Dec. 1, 1934, \$28,791.24.

NAMEQUOIT RIVER AND PLEASANT BAY

ROUND COVE, HARWICH

On Jan. 10, 1934, hearing was held on the petition of the Selectmen for dredging the entrance channel to Round Cove from Pleasant Bay.

A contract was made June 13, 1934, with Arthur K. Finney for dredging a channel from Pleasant Bay to Round Cove for a length of 700 feet to a width of 30 feet on the bottom and a depth of 3 feet at mean low water, at the following contract prices: for dredging and disposing of the excavated material 27 cents per cubic yard; for removing and disposing of boulders \$10 per cubic yard. This work was completed July 19, 1934, at a contract cost of \$933.39. Toward this cost a contribution of \$750 was made by the town.

Under letter contract of Sept. 11, 1934, with Fred Crowell a light barrier of

piles and wire mesh weighted with brush, on the easterly side of the channel, was completed Oct. 1, 1934, at a contract cost of \$175.

Amount expended during the year, \$1,553.03. Total expenditure to Dec. 1, 1934, \$1,553.03.

SAGAMORE BEACH, BOURNE

Hearing was held Jan. 10, 1934, on the petition of the Selectmen, and others, for protective work at Sagamore Beach.

On May 22, 1934, a contract was made with Thomas Whalen and Sons, Inc., for building four stone jetties and placing heavy stone riprap at Sagamore Beach, at a contract price of \$2.47 per ton of 2,000 pounds for stone riprap or chips furnished in place in the completed work. Under this contract work was completed Aug. 3, 1934, at a contract cost of \$9,691.59. Toward this cost contributions of \$2,500 each were made by the town and the county.

Amount expended during the year, \$10,512.98. Total expenditure to Dec. 1, 1934, \$10,519.83.

LYNN HARBOR AND SAUGUS RIVER

SAUGUS RIVER, REVERE

For some years the Department has received complaints from the Point of Pines Yacht Club concerning boulders in Saugus River opposite the Club House. An examination made in July showed that these boulders constitute a menace to the safe navigation of boats using the Club floats.

On July 25, 1934, a letter contract was made with the Crandall Engineer Company for removing a few boulders or points of ledge in the river opposite the Club House. The work was completed Aug. 28, 1934, at a contract cost of \$350. More of this material should be removed from the location next year.

Amount expended during the year, \$350. Total expenditure to Dec. 1, 1934, \$165,877.54.

SCITUATE SEA WALLS AND SHORE PROTECTION

Work under the provisions of Chapter 286 of the Acts of 1933, and under annual appropriations by the Legislature, has been continued during the year in the following localities:

Sand Hills

A letter contract was made with Frank H. Barry on Dec. 7, 1933, for repairing the sea wall originally constructed by the County of Plymouth at the Sand Hills. After repairs had been made to a short section of the wall the work was interrupted by the extreme cold. Later in the year the work was resumed on a basis of day labor. Portions of the face of the wall have been repaired and about 148 linear feet of concrete footing built under the structure. This work was completed Mar. 8, 1934, at a contract cost of \$138.13.

Shore Acres

The work under contract of Sept. 5, 1933, with A. K. Finney for building about 930 linear feet of concrete sea wall and placing riprap, was completed Mar. 10, 1934, at a contract cost of \$13,991.49.

Under contract of Sept. 12, 1933, with Thomas H. Hannaford for building a concrete sea wall, seven stone jetties and placing riprap in front of Oceanside Drive at Shore Acres, work was completed June 1, 1934, at a contract cost of \$31,421.78.

Hearing was held on Dec. 4, 1933, upon the request of the Selectmen for the completion, as originally intended, of the full length of this wall from a point northerly of Fourth Avenue to Eleventh Avenue. Upon the receipt of satisfactory releases from all the property owners, a letter contract was made on May 8, 1934, with Thomas H. Hannaford to build, under the terms and conditions of his contract of Sept. 12, 1933, the additional section necessary to complete the wall. This work is now in progress.

Third Cliff

The work of placing heavy stone riprap and stone chips along the shore at Third Cliff under contract of Sept. 5, 1933, with Raymond A. Bergeson, was completed Dec. 8, 1933, at a contract cost of \$10,640.

Amount expended in Scituate for shore protection during the year, \$33,089.32. Total expenditure for shore protection in Scituate to Dec. 1, 1934, \$484,098.31.

SINGING BEACH, MANCHESTER

On Jan. 10, 1934, hearing was held upon the petition of the Chairman of the Committee on Beach Protection, of Manchester, for protective work at Singing Beach.

A contract was made on Aug. 28, 1934, with Thomas A. Mackey for grading about 4,000 square yards of bank, placing about 1,000 cubic yards of coarse gravel or crushed stone and furnishing and placing 4,400 tons of stone riprap paving on the slope at Singing Beach at the following contract prices: for each ton of riprap furnished and placed in the completed work \$1.85; for each cubic yard of gravel or crushed stone furnished and placed in the completed work 90 cents; for each square yard of bank graded, including the furnishing of material and incidental work, 20 cents. This work is now in progress.

Amount expended during the year, \$3,936.90. Total expenditure to Dec. 1, 1934, \$4,018.70.

STAGE HARBOR, CHATHAM

Work under letter contract of Nov. 29, 1933, with Joseph W. Nickerson for furnishing and delivering stone riprap to be used to protect the sea face of the dike to be built as a C. W. A. project, was completed Jan. 11, 1934, at a contract cost of \$1,290.90.

In May the Department authorized the placing of sod and riprap upon the dike at a cost of approximately \$300.

Amount expended during the year, \$3,109.65. Total expenditure to Dec. 1, 1934, \$14,901.80.

WARRENS COVE, PLYMOUTH

Work under contract of May 16, 1933, with A. K. Finney for placing stone riprap and chips for shore protection, to make repairs to an existing concrete sea wall and to build two concrete jetties, was completed Dec. 20, 1933, at a contract cost of \$6,244.36. Toward this cost a contribution of \$2,500 was made by the town.

Amount expended during the year, \$4,171.01. Total expenditure to Dec. 1, 1934, \$38,412.87.

WEST BAY, BARNSTABLE

In April the Department received a report from the engineer upon an examination of the inshore end of the westerly jetty at West Bay, where erosion had increased during the winter to a degree that made necessary immediate repairs to the structure.

A contract was made on May 13, 1934, with the Bay State Dredging and Contracting Company for placing about 250 tons of heavy stone riprap and about 350 tons of stone chips at the northerly end of the west jetty and along the west bank of the channel at West Bay, at a contract price of \$5.34 for each ton of stone riprap or stone chips furnished and placed in the completed work. Under this contract the repairs were completed Sept. 25, 1934, at a contract cost of \$3,233.69.

No expenditure during the year. Total expenditure to Dec. 1, 1934, \$120,337.08.

WEST CHOP, TISBURY

On Aug. 28, 1934, a contract was made with the Merritt-Chapman and Scott Corporation for repairing five stone jetties, extending two stone jetties and building a stone riprap apron at the base of the bank, at West Chop, at a contract price of \$4.86 for each ton of stone riprap or chips furnished in place in the com-

pleted work. Under this contract work is now in progress. Toward the cost of this protection of the shore a contribution of \$2,500 has been made by the town and contributions amounting to \$1,500 by property owners.

No expenditure during the year. Total expenditure to Dec. 1, 1934, \$5,116.07. 1934, \$5,116.07.

WINTHROP BREAKWATER

By Chapter 286 of the Acts of 1934, the Department was authorized to extend the breakwater off Winthrop Shore Drive, upon condition that no work is begun until the town of Winthrop has paid into the State Treasury the sum of \$16,000 to be used with an appropriation of not more than \$80,000 to be made by the Legislature.

In June the Legislature appropriated \$80,000 for the purpose and in August the required contribution was received from the town.

A contract was made on Aug. 1, 1934, with William R. Farrell for building an extension to the present breakwater in Broad Sound off Winthrop Shore Drive, at a contract price of \$1.97 for each ton of stone riprap furnished in place in the completed work. Under this contract work is now in progress.

Amount expended during the year, \$88,983.32. Total expenditure to Dec. 1, 1934, \$297,844.85.

Miscellaneous

GREAT PONDS

Jurisdiction over great ponds belonging to the Commonwealth was conferred upon the Board of Harbor and Land Commissioners by Chapter 318, Acts of 1888. This act applies to ponds containing in their natural state ten or more acres of land. Authority to sell and convey or lease, subject to the approval of the Governor and Council, any of the islands owned by the State in great ponds was later given by Chapter 379, Acts of 1904, now section 2, Chapter 91, General Laws.

During the year the Department has considered matters relating to: Alum Pond, Sturbridge; Asneconick or Comet Pond, Hubbardston; Bartlett's Pond, Plymouth; Blackmore's Pond, Wareham; Glenmere or Floating Bridge Pond, Lynn; Keyes Pond, Westford; Lake Congamond, Southwick; Lake Quinsigamond, Worcester and Shrewsbury; Lake Tashmoo, Tisbury; Lake Winthrop, Holliston; Lead Mine Pond or Quassac Lake, Sturbridge; Little Sandy Pond, Pembroke; Lovell's Pond, Barnstable; Oldham Pond, Pembroke; Smelt Pond, Kingston; Snipatuit Pond, Rochester; Spy Pond, Arlington; Windsor Pond, Windsor.

Surveys were made this year of the following great ponds:

Lake Quinsigamond, Worcester and Shrewsbury

Area at time of survey	534	Acres
Area of natural pond		
in two ponds	447.69 A.	
	15.105 A.	462.795 Acres
Area at time of survey divided		
between city of Worcester	131.896 A.	
and town of Shrewsbury	402.104 A.	
Area of natural pond divided:		
Worcester	120.803 A.	
Shrewsbury	326.888 A.	
Separate natural pond	15.105 A.	
Maximum depth	86.9	feet

Flints Pond, Worcester, Grafton, Shrewsbury

Area at time of survey	316.863	Acres
Area of natural pond	65.188	Acres
Area at time of survey divided:		
Worcester	29.083 A.	
Grafton	96.903 A.	
Shrewsbury	190.877 A.	

Area of natural pond divided:

Worcester 20.948 A.

Grafton 16.251 A.

Shrewsbury 27.989 A.

Maximum depth 18.10 feet

Hovey Pond, Grafton

Area at time of survey 86.850 Acres

Area of natural pond 21.394 Acres

Maximum depth 22.80 feet

Long Pond, Brewster

Natural pond area at time of survey 35.3 Acres

Maximum depth 34 feet

Higgins Pond, Brewster

Natural pond area at time of survey 29.03 Acres

Maximum depth 75 feet

ACCESS TO GREAT PONDS

On Nov. 27, 1934, a petition signed by ten citizens of the Commonwealth was presented to the Board under the provisions of Chapter 453 of the Acts of 1923, requesting the establishment of a right of way for public access to Asneconick or Comet Pond in Hubbardston. Hearing before the Joint Board on this petition has been assigned for Dec. 12, 1934.

PROVINCE LANDS

The area of approximately 3,810 acres, now known as the Province Lands at Provincetown, is a part of a larger territory at the extremity of Cape Cod similarly designated in the time of the Province of Massachusetts Bay, and included in the original grant to the Colony of New Plymouth by royal patent of January 13, 1629-30. Although the Colony later transferred other portions of its domain to sub-colonies or plantations this particular territory was retained. In 1654 the Governor of the Plymouth Colony, under an Order from its General Court in 1650, bought the entire area from an Indian named Sampson, who gave a deed at the time. Later two other Indians claimed ownership and gave with Sampson a confirmatory deed in 1679.

When the Province of Massachusetts Bay acquired in 1692 the lands of the Plymouth Colony the whole area at the extremity of Cape Cod became known as the Province Lands. Chapter 11 of the Province Laws of 1727 incorporating the town of Provincetown, expressly reserved the rights of the Province to these lands and enabled them to become the property of the Commonwealth of Massachusetts when the provincial government came to an end. By sections 8 and 9 of Chapter 261 of the Acts of 1854, the ownership of the State was emphatically asserted.

The value to the harbor of Provincetown of the protective vegetation upon the sand dunes of these lands was early recognized by the Colonial Government. The preamble to Chapter 3 of the Acts of 1714 states:

"Whereas, the harbor at Cape Cod, being very useful and commodious for fishing, and the safety of shipping, both inward and outward bound, is in danger of being damnified, if not made wholly unserviceable, by destroying the trees standing on the said cape (if not timely prevented), the trees and bushes being of great service to keep the same from being driven into the harbor by the wind." . . .

The menace to the harbor began with the use of the land by the early settlers for the drying of fish. The continuance of this practice injured the grass and shrubs and released the sands to shift with the winds. As the settlement increased trees were cut for buildings and wharves and cattle and horses were allowed to graze upon the lands. The report of a special commission appointed in 1825 to report upon the harbor states "The space where a few years ago were some of the highest lands on the cape, covered with trees and bushes, now presents an extensive waste of undulating sand."

As a result of this report an appeal was made to the Federal Government for assistance in the protection of the harbor, and legislation was enacted by the State to prevent the destruction of beach grass, bushes, trees and sod upon the lands. Although the Federal Government spent a considerable sum in replanting beach grass and the State endeavored to prevent further exploitation of the area, the increase of population at Provincetown and the lack of necessary officials to enforce the laws, allowed the devastation to continue. The conditions in 1893 were described in a report made by the Trustees of Public Reservations in the following terms:

"Half of the province land is already a treeless waste. The Commissioners of 1825 reported to the General Court that this desert was the result of the stripping of vegetation from the seaward sand hills. We find today that, once the mat of plant roots is removed from a windward slope, the northwest gales cut into the wounded place and proceed to undermine the adjacent plant-covered slopes. The sands blown out of such places are dumped in the lee, in the nearest hollow, burying the trees and bushes and stifling them to death. Once rid of the trees, the sands are drifted by the winds like snow. The beach grass planted by the government seems to have stayed the destruction of the old ridges in some measure; but the wheels of carts continually crossing the sand drifts in the direction of the worst gales soon broke the grassed surface so that the wind got hold, "blew out" great areas, and dumped the sand in such steep drifts in the edges of the woods that many cart paths became impassable, so that new routes were sought, where the operation was repeated. Within the province lands the grassy Snake Hills and the wooded ridge called Nigger Head have bravely withstood the gales without serious change since Major Graham surveyed the field in 1833-1835; but between these two points the winds have made great havoc. Wooded knolls have been cut in two, ponds filled up, and much woodland buried. East of Nigger Head and towards eastern harbor, (now known as Pilgrim Lake,) beyond the bounds of the province lands, the changes have been even more violent. Several salt creeks have been wholly filled up, and former sand ridges levelled so that the hulls of vessels on the ocean are now visible from the harbor."

To remedy the serious conditions reported by the Trustees, Chapter 470 of the Acts of 1893 was passed giving to the Harbor and Land Commissioners the general care and jurisdiction of about 3,235 acres of the lands lying north and west of a line defined by the statute, authorizing the Board to fix and mark the bounds of the province lands under its control, and releasing the part of the territory lying east and south of the line from the claims of the State to ownership of the lands in fee. The effect of this statute was to continue State ownership in the area reserved by the Commonwealth and to release to private ownership about 955 acres, including the inhabited part of the town of Provincetown. Since 1893 the term Province Lands has been restricted to the territory reserved by the State.

The Harbor and Land Commissioners proceeded at once to fix and mark the bounds of the lands and to begin the work of reclamation. At the time very little work of this character had been done in the United States, and although the advice of experts in the service of the Federal Government was freely given, the particular conditions at this part of the Cape made experimentation necessary.

By 1895, however, the Harbor and Land Commissioners were convinced of the efficacy of beach grass in arresting the movement of the sand. Their report for that year says:

"We have been planting beach grass along the sands under the lee of existing vegetation and on the northern range of sand hills, until an area of 13 acres has been covered. This has taken root readily and already gives promise of its ability to resist the sand storms."

A later report calls attention to the conditions which such planting meets.

"The growth must continue under peculiar hardships, for the heavy winter winds, usually from the northeast or northwest, blow with great velocity and often terrific force, with which the loose sand drifts like snow and vegetation has a hard chance for life. Gale velocities of 50 to 60 miles an hour are not infrequent, and sometimes rise as high as 72 miles an hour."

At this time the method followed for many years was adopted. The barren dunes were first covered with brush or planted with beach grass pulled in bunches about two inches thick and transplanted in rows about 4 feet apart and 6 inches deep. The grass lives between three and four years acting as an excellent sand binder. This work was followed by the transplanting of shrubs and trees. Bayberry was soon found especially valuable for the purpose particularly along the top of the slopes of the dunes.

In the early years numerous varieties of trees were planted, willows, silver poplars, locust, black alder, white birch, hornbeam, maple, tamarisk, oaks grown from acorns and silver oaks planted in the sod, and evergreens. By 1898 as a result of these experiments the Board was convinced that the evergreen trees have a greater protective value in this area than the deciduous. At present the planting is largely limited to bayberry and Scotch broom, and to trees of native pitch pine, Scotch pine and Austrian pine.

Under conditions now existing it has been possible to abandon the planting of beach grass in favor of the preliminary covering of the dunes with brush. This method allows larger areas to be protected with less effort and affords enough protection for the natural re-seeding of the beach grass.

In 1914, at the request of the Commissioners an inspection of the lands was made by the State Forester. His report recommended the building over of the forested area to an evergreen forest for the following reasons: that evergreen is more valuable; that a clear stand of evergreen eliminates gypsy and brown-tail moths; that evergreens give a naturally uniform mulch of needles providing ideal conditions for reforesting sandy soils, and that evergreens properly planted ultimately keep down underbrush and make excellent conditions for both economic and æsthetic uses of the land. The report offered also co-operation in the elimination of the gypsy and brown-tail moth and in providing nursery stock for planting. This offer was accepted by the Board and the co-operation of the Department of Conservation has been continued since, much to the advantage of the planting upon the Province Lands.

In 1894 the Harbor and Land Commissioners began the building of a road 20 feet wide across these lands in a northwesterly direction toward Nigger Hill. Their report for 1894 explains that the "route in question was selected for the reason that this section of the lands is better protected from the shifting sand and extends farther than any other into the territory to be reclaimed." A section of this road completed in April was built largely of turf taken from the adjacent woods.

Work upon this road continued. By 1895 it had been extended through Nigger Hill, by 1896 to Grand View Hill and by 1900 to the Race Point Life Saving Station upon the outer beach. The entire length of road of about 10,200 feet, was built at a cost of \$3,450. During this period repairs and improvements were made upon other roads within the Province Lands.

By Chapter 88 of the Resolves of 1913 the Massachusetts Highway Commission was authorized to repair and surface the road across the lands at an expense not exceeding \$5,000. The entire length of road for a width of 12 feet was surfaced with sand and oil by the layer method under the provisions of the Resolve. In 1919 the Commission on Waterways and Public Lands, successor to the powers and duties of the Harbor and Land Commissioners, built at the end of the road on the bluff overlooking the ocean a parking area of 8,000 square feet.

A section of State Highway about $1\frac{1}{4}$ miles long was built in 1929 from a town road at the westerly end of Provincetown across a part of these lands to the outer shore, making an excellent bathing beach accessible for public use. This road was extended the following year across the lands to the old State Highway leading north from Provincetown, and so completed a circuit through the Province Lands.

The completion of this road has made accessible a beach of great beauty. The increasing number of visitors to this shore testifies to the appreciation of the public of the Province Lands and of this beach. To check serious erosion threatening the shore, four stone jetties were built during the year at a contract cost of \$7,839.28.

The Department has received many requests for the lease of land adjacent to

the road. It is, however, the present policy of the Board to grant no right to occupy land adjoining this beach but to rent under permits issued for a year, certain parcels upon the shore easterly of the Coast Guard Station. It is felt that the beach itself should be reserved for public use to allow the future construction of bathhouses and of such shelters as may seem necessary and desirable for public use.

Under the provisions of chapter 77 of the Acts of 1864, certain upland and flats of the Province Lands were ceded to the Federal Government for the Long Point Military Reservation. In accordance with an Act of Congress approved June 7, 1926, about 525 acres of this property were reconveyed in 1929 to the Commonwealth. The portion returned to the State is an area known as Long Beach, and consists of a sand ridge of varying width extending along the high water line, and of certain marsh lands north of the ridge. Under the provisions of section 2 of Chapter 91 of the General Laws, the Department now exercises jurisdiction over this property.

Of the area originally granted the Federal Government has retained four parcels, one upon which the Wood End Light is located, one for the Coast Guard Station, and two for the range beacons used in testing U. S. Naval submarines. Over three of these parcels, however, the National Government provides that the Commonwealth shall have a right of way, not exceeding 100 feet in width, and the privilege of maintaining thereon a public highway, in a location subject to the approval of the Federal Government.

Under the provisions of Chapter 386 of the Acts of 1930, the Department on Dec. 17, 1930, conveyed to the United States a tract of land containing about 4.77 acres westerly of the northerly end of the State Highway at Sea View, for use as a site for a Coast Guard Station.

In accordance with Chapter 300 of the acts of 1930 a marsh sod and timber dike about 3,200 feet long was built across Race Run to prevent the flooding of marshes and to aid in restricting the breeding of mosquitoes in the lands. The work was completed Feb. 20, 1931, at a contract cost of \$18,950.

At the present time the work carried on has resulted in the reclamation of about 1,200 acres of the Province Lands. Some of this work was destroyed by forest fires in 1930 so that parts of the burned area must be replanted.

During the year work has been continued in accordance with the methods described. Burnt trees have been cut over an area of about 20 acres and 44 acres have been covered with brush. In addition 1,800 bayberry plants and 1,200 pitch pines have been transplanted, and 180,000 native pines planted from seedlings.

The sum of \$201.25 has been paid into the State Treasury during the year from licenses issued for cultivating and picking cranberries on the bogs and for mowing meadows and from permits for occupying areas on these lands.

Under date of Feb. 17, 1934, the Department leased to the Town of Provincetown an area containing approximately 364.5 acres for a term of five years for use as an airport. This lease was approved by the Governor and Council on Feb. 21, 1934.

Amount expended during the year, \$4,653.60. Total expenditure to Dec. 1, 1934, \$171,288.18.

FORT DEVENS MILITARY RESERVATION

Chapter 290 of the Acts of 1933, grants to the United States of America all the right, title and interest which the Commonwealth has the power to convey in and to all great ponds, including the waters and the lands under the same, situated within the Fort Devens Military Reservation, as now located, and requires the Department to execute and deliver to the United States the necessary deed of conveyance. The deed necessary under the terms of the statute was executed by the Board under date of Sept. 19, 1934, approved by the Governor and Council on Sept. 26, and forwarded on Oct. 1, 1934, to the Chief of Staff of the First Corps Area.

STATE BOUNDARY LINES

During the year inspection was made of Massachusetts-Rhode Island State Line Bound Little Compton-Westport 3, which had been broken off and removed from its proper location. A new bound should be set at this point next year.

TOWN BOUNDARY LINE

During the year five triangulation stations were established in connection with determining location of boundary stones between the town of Reading and city of Woburn. In August one triangulation station was established to determine location of a point of the Raynham-Taunton Line, and the Eastham-Orleans corner 4 was relocated and set. In September a portion of the Saugus-Wakefield Line was determined and in October two corners of the Edgartown-Oak Bluffs Line were located and marked. In November a portion of the Granville-Russell town Line was run out and marked and two triangulation stations determined to locate a portion of the Hamilton-Wenham town Line.

CONSERVING AND EQUALIZING THE FLOW OF WATER IN RIVERS AND STREAMS

By Chapter 359, Acts of 1909, Chapter 564, Acts of 1912, and Chapter 84, Resolves of 1917, co-operation was established between the Commonwealth and the Water Resources Branch of the United States Geological Survey, so that results of work relating to the gauging of streams within the Commonwealth and other work of a similar character carried on by the said Survey have been obtained for use by the Department and are available for other Departments of the Commonwealth. Toward the cost of this work the Department has paid during the year, \$4,000.

Many requests have been received in recent years at this office and at the office of the U. S. Geological Survey for data relative to the elevation of ground water throughout the Commonwealth. To provide for securing and tabulating information on this subject, the Department is asking an increase of \$1,000 in its usual appropriation for co-operative work with the Geological Survey, for use with an equal amount to be granted for the purpose from Federal funds.

RE-ESTABLISHMENT OF CERTAIN TRIANGULATION STATIONS

By section 33, Chapter 91, General Laws, the Department is authorized to make such surveys and to do such other work as may be required by any order of the Land Court, to re-establish and permanently mark certain triangulation points and stations previously established in connection with the topographical survey of the Commonwealth, and the town boundary survey, which have been lost or destroyed and to obtain the geographical position of such new points and stations as may be required from time to time by the Court. During the year the locations of the following triangulation points were determined and permanently marked on the ground and the geographical positions furnished to the Land Court: 17 stations in Oak Bluffs; 6 stations on Sandy Neck, Barnstable.

LICENSES AND PERMITS

During the year 91 licenses were granted for work to be done in tide waters, great ponds, Connecticut River and Merrimack River and 108 permits for miscellaneous purposes. The Department also approved 62 permits granted by cities and towns for the construction and maintenance of fish weirs in tide water.

EXPENDITURES FOR DEVELOPMENT AND IMPROVEMENT IN BOSTON HARBOR,
1859-1934, INCLUSIVE

<i>Payments</i>	<i>To Nov. 30, 1933</i>	<i>1934</i>	<i>Total</i>
Boston Harbor	\$1,718,822 24 ¹		
Maintenance of Property		—	
Dredging and filling		\$36,310 08	
Special appropriations		7,311 28	\$1,762,443 60
Commonwealth Flats, East Boston	3,093,326 83 ²	—	3,093,326 83
Commonwealth Flats, South Boston	4,892,123 69	—	4,892,123 69
Castle Island	743,764 91		
Dredging and filling		881 24	
Streets, Piers and Railroads		618 79	745,264 94
Commonwealth Pier No. 5, South Boston:			
Construction	4,014,790 45	—	4,014,790 45
Maintenance	724,466 47	57,485 23	781,951 70
Dredging	49,911 69	11,412 06	61,323 75
Operation and Supervision	1,735,007 56	101,841 42	1,836,848 98
Commonwealth Pier No. 1, East Boston:			
Construction	1,199,703 23	—	1,199,703 23
Operation and Supervision	126,979 26	1,007 86	127,987 12
Maintenance	21,385 12	5,982 97	27,368 09
Commonwealth Pier No. 6, South Boston:			
Construction	1,092,149 06	—	1,092,149 06
Maintenance	51,937 90	—	51,937 90
Dry Dock	3,169,651 15 ³	—	3,169,651 15
Hayward Creek	385,979 61 ⁴	—	385,979 61
Mystic River	430,403 55 ⁵	31,094 68	461,498 23
Malden River	33,002 84 ⁶	—	33,002 84
Chelsea Creek	60,857 03	237 32	61,094 35
Commercial Point, Dorchester Bay	53,213 10	—	53,213 10
Maintenance of Property (in addition to maintenance items listed above)	376,058 32	19,394 60	395,452 92
	<hr/>	<hr/>	<hr/>
	\$23,973,534 01	\$273,577 53	\$24,247,111 54

- ¹ Expenditure includes contribution by Quincy Market Cold Storage and Warehouse Corporation in 1921 \$4,000 00
By Bethlehem Ship Building Corporation in 1930 10,000 00
- ² Expenditure includes contribution by the City of Boston in 1926 authorized by Chapter 385, Acts of 1926 10,000 00
- ³ Additional amount paid by the State Treasurer from Development of the Port of Boston Loan Sinking Fund in settlement of claims 17,877 73
- ⁴ Expenditure includes contributions by Massachusetts Oil Refining Company and Bethlehem Ship Building Corporation 38,600 00
Additional amount paid by State Treasurer for land taking 3,725 27
- ⁵ Expenditure includes contribution by Merrimac Chemical Company 15,000 00
in 1920 4,182 50
in 1922
- Contribution by Beacon Oil Company in 1920 50,000 00
- ⁶ Commonwealth's funds expended by United States Government 31,000 00
- Contribution by Standard Oil Company of New York in 1922, expended by the Commonwealth 600 00

EXPENDITURES AND CONTRIBUTIONS FOR IMPROVEMENT OF SMALL HARBORS AND CHANNELS WITHIN BOSTON HARBOR, UNDER THE DIRECTION OF THE DEPARTMENT OF PUBLIC WORKS AND ITS PREDECESSORS, FROM 1893 TO 1934, INCLUSIVE

<i>Locality and Character of Work</i>	Contributions		Total Expenditures	
	1934	Contributions	1934	Total Expenditures
Cottage Park Channel, Winthrop dredging	—	\$6,250 00	—	\$37,967 29
Dorchester, easterly shore, dredging and survey	—	1,000 00	—	210,767 61
Harbor View, dredging	—	—	—	146 00
Hingham Harbor, dredging	—	6,500 00	—	41,595 12
Houghs Neck, Quincy, dredging and survey	—	7,500 00	\$596 84	46,685 15
Island End River, Everett, survey	—	—	—	264 10
Jeffries Point Channel, dredging	—	—	—	4,563 93
Mystic River (near Lawrence and Wiggin Wharf) dredging	—	—	—	5,927 70
Neponset River, dredging	—	10,000 00	—	109,401 63
Old Harbor Cove, dredging	—	—	—	10,520 48
Orient Heights Channel, dredging	—	—	—	45,412 38
Pemberton Point, Hull, breakwater	—	60,000 00	674 03	91,195 01
Pleasant Park Yacht Club Channel, dredging	—	3,000 00	14,072 37	30,313 86
Point Allerton, Hull, seawall	—	50,000 00	—	75,127 05
Point Shirley, Winthrop	—	—	—	3,713 37
Quincy Bay, dredging	—	10,150 00	—	84,162 47
Shirley Gut, Boston and Winthrop, dredging	—	—	321 38	2,432 34
South Boston, Southerly Shore, dredging	—	—	—	129,542 08
Stony Beach, Hull, seawall and riprap	8,000 00	8,000 00	16,101 47	28,658 05
Town River, Quincy, survey and dredging	—	16,050 00	—	57,663 25
Weir River, Hull, dredging	—	45,000 00	—	205,336 48
Wessagussett Channel, dredging	—	—	—	815 20
Weymouth Fore River, dredging	—	8,250 00	—	70,084 69
Winthrop Harbor Channels, dredging	3,375 00	20,567 00	15,051 99	89,036 21
	\$11,375 00	\$252,267 00	\$46,818 08	\$1,381,331 45

EXPENDITURES AND CONTRIBUTIONS FOR RIVER AND HARBOR WORK
FROM DECEMBER 1, 1933, TO NOVEMBER 30, 1934

<i>Location and Character of Work</i>	Contributions	Expenditures
Allens Harbor, Harwich, survey	—	\$216 19
Bass River, Beverly, dredging	—	27 20
Bass River, Dennis and Yarmouth, survey and dredging	\$2,500 00	5,848 26
Brant Rock, Marshfield, seawalls and riprap	—	1,282 50
Cape Cod Canal Pier, Bourne, construction	—	4,062 05
Cape Cod Canal Pier, Bourne, operation and maintenance	—	4,545 82
Cape Poge, Edgartown, dredging	12,827 01	12,913 24

<i>Location and Character of Work</i>	<i>Contributions</i>	<i>Expenditures</i>
Connecticut River, Deerfield	—	1,227 31
Connecticut River, Greenfield	—	1,607 76
Connecticut River, Hadley	—	2,599 91
Connecticut River, Hatfield	—	256 96
Connecticut River, Northampton	—	617 37
Connecticut River, Northfield	—	5,194 61
Connecticut River, West Springfield	—	2,507 77
Cotuit Harbor, Cotuit, dredging	4,661 72	9,323 44
Dennis:		
Dennisport, stone jetty	600 00	1,430 52
Nobscusset Harbor	1,160 00	4,563 22
North Dennis	1,200 00	2,216 33
Swan Pond River	1,750 00	3,906 74
West Dennis	—	1,568 88
Duxbury Harbor, Duxbury, survey	—	195 66
Falmouth Heights, Falmouth, sea wall repairs and riprap	1,250 00	2,235 31
Great Ponds, survey	—	641 39
Green Harbor, Marshfield, survey	—	122 75
Herring River, Harwich, survey	900 00	12 40
Herring River, Wellfleet, dike	—	5,394 05
Hyannis Harbor, Barnstable, survey	—	54 68
Harwichport Beach, shore protection	—	6,704 00
Lake Anthony, Oak Bluffs, riprap	—	136 47
Lake Quinsigamond, Worcester, investigation	—	1,760 56
Lynn Harbor—Saugus River, Lynn and Saugus removal of boulders	—	350 00
Manomet Point, Plymouth, stone riprap and fill	7,250 00	6,642 46
Megansett Harbor, Falmouth, dredging	600 00	1,343 18
Merrimack River Mouth, Newburyport, survey	—	111 87
Nahant, riprap	—	27,798 76
Namequoit River and Pleasant Bay, Chatham, dredging	750 00	1,553 03
New Bedford State Pier, operation and maintenance	—	7,014 72
Nobscusset Harbor, Dennis—see Dennis		
North Dennis—see Dennis		
North River, Salem, survey	—	14 93
Oak Bluffs, sea wall and jetty repairs	6,000 00	12,003 66
Plymouth—see Manomet Point, Plymouth		
Plymouth Property, maintenance of	—	3,515 74
Province Lands, Provincetown, reclamation	—	4,653 60
Provincetown Harbor, shore protection	2,500 00	16,572 18
Rock Harbor, Orleans, timber bulkhead and plat- form	4,000 00	7,958 73
Rockport Harbor, Rockport—survey	—	41 99
Roughans Point, Revere, survey	—	250 65
Sagamore Beach, Bourne, stone jetties and riprap	5,000 00	10,512 98
Scituate Shore Protection:		
Sand Hills to Shore Acres	—	15,814 05
Shore Acres, Scituate	—	7,575 85
Glades, Scituate	—	1,413 19
Sand Hills, Scituate	1,500 00	3,671 46
Third Cliff, Scituate	—	4,614 77
Seapuit River, Barnstable	—	22 40
Singing Beach, Manchester, stone riprap	7,562 50	3,936 90
South Harwich, riprap	—	750 18
Stage Harbor, Chatham, dike	—	3,109 65
Swan Pond River, Dennis,—see Dennis		
Warrens Cove, Plymouth, riprap, jetties and sea wall repairs	—	4,171 01

<i>Location and Character of Work</i>	Contributions	Expenditures
Water Conservation	—	4,000 00
West Bay, Barnstable and Osterville, dredging	1,088 28	5,729 56
West Chop, Tisbury, riprap	4,000 00	—
West Dennis—see Dennis		
West Harwich Beach, shore protection	400 00	525 50
Winthrop Shore, Winthrop, breakwater	16,000 00	88,983 32
Witchmere Harbor, Harwich, survey	500 00	85 16
Wrecks, removal from tide water	—	1,453 62
Improvement of Rivers and Harbors, general ex- penses	—	6,872 38
	<hr/>	<hr/>
	\$71,172 50	\$336,240 83

EXPENDITURES AND CONTRIBUTIONS FROM 1893 TO 1934, INCLUSIVE, FOR RIVER AND HARBOR WORK, UNDER THE DIRECTION OF THE DEPARTMENT OF PUBLIC WORKS AND ITS PREDECESSORS (EXCEPTING BOSTON HARBOR).

<i>Location and Character of Work</i>	Contribution by Municipality or Others	Total Expenditure
Acushnet River, inspection and dredging	—	\$119,810 10
Allens Harbor, Harwich, shore protection, dredging, riprap and jetties	\$18,927 50	51,362 62
Allens Pond, Dartmouth, survey	—	195 95
Angle Tree Monument, reservation	—	1,306 22
Annisquam River, Gloucester, dredging, removing ledges and riprap	13,250 00	171,498 69
Apponagansett Harbor and River, Dartmouth sur- vey, dredging and stone breakwater	—	55,786 05
Barnstable Harbor, Barnstable, dredging	7,500 00	30,693 16
Bass River, Beverly, dredging	55,535 75	81,102 76
Bass River, Dennis and Yarmouth, jetties, dredg- ing and survey	25,095 00	188,293 33
Beach Street, Scituate — see Scituate		
Beverly Harbor, Beverly, dredging	—	50,000 00 ¹
Brant Rock, Marshfield, shore protection	111,503 66	230,948 14
Brewster, Skaket Inlet, survey	—	617 19
Bucks Creek, Chatham, jetties, survey and dredg- ing	2,500 00	39,719 69
Buzzards Bay, Falmouth, survey	—	166 11
Cape Cod Canal Pier, Bourne, construction	—	262,424 72
Cape Cod Canal Pier, Bourne, operation and maintenance	—	6,681 28
Cape Poge, Edgartown, cut through beach, dredg- ing, jetties and riprap	16,500 00	55,818 33 ²
Cataumet Harbor — see Megansett Harbor		
Cedar Point, Scituate — see Scituate		
Centerville River, Barnstable, dredging	19,711 50	44,329 77
Chatham — riprap and surveys	10,500 00	19,813 19
Cohasset Harbor, Cohasset, breakwater and dredg- ing	42,691 88	116,191 93
Concord River, Billerica, removing boulders	150 00	1,664 59
Connecticut River, investigation of navigation and surveys	—	8,878 96
Connecticut River, Agawam, protective work	—	18,814 42
Connecticut River, Chicopee, survey, wall and riprap	640 00	25,789 02
Connecticut River, Deerfield, survey and riprap	—	1,227 31

¹ State funds expended under direction of U.S. Government.

² \$12,827 01 expended from U.S. Government funds (Emergency Public Works Administration)

<i>Location and Character of Work</i>	Contribution by Municipality or Others	Total Expenditure
Connecticut River, Greenfield, survey and riprap .	—	1,607 76
Connecticut River, Hadley, diversion wall and riprap .	7,000 00	124,554 95 ³
Connecticut River, Hatfield, dikes and riprap .	1,000 00	51,568 48
Connecticut River, Holyoke, dredging and protective work .	1,991 29	9,253 27
Connecticut River, Holyoke, marking and lighting old piers .	—	1,195 32
Connecticut River, Northampton, riprap .	—	1,524 20 ⁴
Connecticut River, Northampton, riprap .	—	617 37
Connecticut River, Northfield, riprap .	—	14,223 51
Connecticut River, South Hadley, wall .	1,000 00	7,379 58
Connecticut River, Springfield and West Springfield, protective work .	—	15,017 85 ⁵
Conservation of Waters, investigation .	—	88,764 54
Cotuit Harbor, Barnstable, dredging survey and bulkhead repairs .	17,845 10	92,828 26
Cuttyhunk Harbor, Gosnold, jetties and dredging .	10,000 00	83,935 78
Deacons Pond Harbor — see Falmouth Inner Harbor		
Dennis:		
Dennisport, stone jetty .	1,200 00	2,315 47
Nobscusset Harbor, breakwater .	4,310 00	46,382 16
North Dennis, stone jetty .	1,200 00	2,216 33
Swan Pond River, stone jetties .	1,750 00	3,906 74
West Dennis, stone jetty .	750 00	1,624 73
Duxbury Bay and Harbor, dredging and survey .	27,000 00	92,849 01
East Bay, Osterville, jetties, dredging and removing scows .	10,000 00	70,969 75
Edgartown Harbor, Edgartown, survey and cut in beach .	300 00	3,496 64
Ellisville Harbor, Plymouth, dredging and jetty repairs .	—	20,673 58
Essex County Beaches, survey .	—	1,000 00
Essex River, Essex, dredging .	—	76,304 33 ⁶
Fall River Harbor, improvement .	—	1,130 18
Falmouth Heights, Falmouth, sea wall and riprap .	23,460 04	72,903 02
Falmouth Inner Harbor, dredging, jetties, wall and riprap .	33,500 00	154,279 63
Falmouth, Menauhant Shore, bulkheads, jetties and riprap .	3,100 00	6,075 33
First and Second Cliffs, Scituate — see Scituate		
Fresh Water Cove, Gloucester, dredging .	3,300 00	17,477 53
Gay Head, survey .	—	555 42
Geological Survey Trust Fund .	3,000 00	3,000 00
Glades, North Scituate — see Scituate		
Gloucester Fish Pier .	—	396 91
Gloucester, Western Avenue, sea wall .	35,000 00	60,000 00
Gloucester Harbor, Gloucester, dredging and removing ledges .	15,000 00	148,802 79
Great Head, Winthrop — see Winthrop Shore		
Great Ponds, survey .	—	29,671 10
Green Harbor, Marshfield jetties, dredging and survey .	42,500 00	167,361 13

³ from 1888 inclusive⁴ this location is now part of Holyoke⁵ from 1891 inclusive⁶ includes \$5000 expended by U.S. Government

<i>Location and Character of Work</i>	Contribution by Municipality or Others	Total Expenditure
Gun Rock Point, Hull, breakwater and sea wall repairs	16,135 41	77,939 33
Harbor Cove, Gloucester, survey and dredging	3,866 00	25,155 04
Harwichport Beach, Harwich, shore protection	4,000 00	6,901 18
Harwich Shore, near Chatham Line, stone jetty	350 00	1,206 75
Herring Creek, Scituate, survey	—	253 76
Herring River, Harwich, jetties, dredging and riprap	37,300 00	134,732 98
Herring River, Wellfleet — dikes and ditches	10,000 00	44,714 55
Hoosac River, North Adams, excavation and survey	—	21,271 67
Housatonic River, Sheffield, survey	—	2,011 29
Hull, sea wall and jetties	8,882 06	42,093 96
Humarock Beach, Scituate — see Scituate		
Hyannis Harbor, Barnstable, bulkhead and dredging	21,750 00	40,549 18
Hyannisport, Barnstable, survey and breakwater	2,500 00	65,017 76
Improvement of Rivers and Harbors, general expenses	—	62,366 59
Ipswich River, Ipswich, jetty, wall, riprap and dredging	3,800 00	60,087 07
Kings Beach, Swampscott, removal of obstruction	—	166 41
Lagoon Pond, Tisbury and Oak Bluffs, dredging and jetty	13,500 00	25,855 90
Lake Anthony, Oak Bluffs, jetties and dredging	16,000 00	98,398 21
Lake Quannapowitt, Wakefield, investigation	—	345 32
Lake Quinsigamond, Worcester, investigation	—	1,760 56
Lake Tashmoo, Tisbury, survey	—	432 88
Lewis Bay, Barnstable, survey and dredging	18,809 29	66,874 33
Little Harbor, Cohasset, survey	500 00	1,476 77
Little Harbor, Marblehead, dredging	2,500 00	11,166 16
Little River, Gloucester, survey	—	862 93
Lobster Cove, Gloucester, dredging	4,500 00	61,603 36
Long Beach, Rockport, sea wall	27,700 00	57,306 56
Lynn Harbor, Lynn, anchorage basin, survey and dredging	5,200 00	121,609 22
Lynn Harbor and Saugus River, dredging and filling	37,500 00	165,877 54
Manchester Harbor, Manchester, survey, jetties and dredging	83,000 00	189,838 88
Manomet Point, Plymouth, stone riprap and fill	7,250 00	6,642 46
Marshfield-Duxbury, survey	—	358 61
Mattapoisett Harbor, survey	—	255 48
Megansett Harbor, Bourne and Falmouth, dredging	13,330 00	53,459 84
Menamsha Inlet, Chilmark and Gay Head, jetties, dredging, sea wall and riprap	2,700 00	130,243 43
Merrimack River, investigation	—	1,208 50
Merrimack River mouth, Newburyport, survey	—	111 87
Mill River, Gloucester, survey and dredging	300 00	24,899 59
Mitchells River, Chatham, survey and dredging	6,000 00	23,113 92
Monument Beach, Bourne, survey	—	326 40
Nahant, survey and riprap	15,000 00	30,177 19
Namequoit River and Pleasant Bay, Chatham, dredging	6,250 00	31,943 68
Nantucket Harbor, dredging	5,000 00	58,982 52
Nantucket, survey of Sesachacha Pond	—	110 66
Nauset Harbor and Town Cove, Orleans, dredging	2,000 00	10,671 24
New Bedford Harbor, dredging	—	18,856 57
New Bedford State Pier, pier shed and dredging	13,446 74 [†]	558,593 16

[†] paid by Surety Company

<i>Location and Character of Work</i>	Contribution by Municipality or Others	Total Expenditure
New Bedford State Pier, operation and maintenance	—	80,543 01
Newburyport Harbor, survey	—	115 97
Nobscusset Harbor, Dennis — see Dennis		
North Dennis — see Dennis		
North River, Marshfield, survey and removing rocks	1,800 00	8,658 75
North River, Salem, survey	—	719 45
North Scituate — see Scituate		
Oak Bluffs, removing rocks	—	594 95
Oak Bluffs, sea walls, bulkhead and jetties	60,000 00	160,679 24
Ocean Grove, Swansea, survey	—	143 23
Onset Bay, Wareham, survey and dredging	1,000 00	15,553 00
Orleans, Survey	—	104 18
Palmers Pond, Falmouth, survey	—	358 76
Pamet River, Truro, survey, dredging and repairing jetties	1,200 00	198,010 32
Paskamansett River, Dartmouth, dredging and jetty	—	5,227 68
Penikese Island, Gosnold, pile wharf and survey	—	5,192 95
Pines River, Revere and Saugus, survey	—	904 80
Pleasant Bay, Chatham, dredging	600 00	2,364 33
Plum Island River, Newbury and Newburyport, survey	—	983 31
Plymouth Harbor, dredging and removing old piling	92,794 55 ^a	324,565 02
Plymouth Memorial Park, maintenance	—	51,572 22
Point Shirley, Winthrop — see Winthrop Shore		
Poponessett Bay, Barnstable and Mashpee, dredg- ing	—	46,252 33
Powow River, Amesbury, dredging channel and rip- rapping wall	—	502 94
Province Lands, Provincetown, reclamation	—	171,288 18
Provincetown Harbor, shore protection	2,575 00	45,302 99
Quamquisset Harbor, Falmouth, survey	—	710 31
Quanset Harbor, Orleans, survey and dredging	500 00	2,194 50
Red Brook Harbor, Bourne, removing pier	—	275 00
Revere, stone breakwater	—	60,397 93
Rock Harbor, Orleans, dredging	6,400 00	28,791 24
Rockport Harbor, Rockport, dredging and remov- ing rocks	4,750 00	32,939 45
Roughans Point, Revere	—	250 65
Sagamore Beach, Bourne, stone jetties and riprap	5,000 00	10,591 83
Salem Harbor, Salem, survey	—	1,509 92
Salisbury Beach, survey	—	4,754 27
Salt Pond River, Eastham, survey	—	210 11
Salters Point, Dartmouth, breakwater	4,500 00	42,939 57
Sand Hills, Scituate — see Scituate		
Sandwich Harbor, Sandwich, dredging channel, rip- rap and jetties	—	80,579 84
Saugus River, Lynn and Saugus, survey and dredg- ing	2,000 00	20,845 17
Scituate shore protection:	75,000 00	
Beach Street, Scituate, wall and breakwater	17,333 52	34,782 50
Cedar Point, Scituate, wall and breakwater	21,446 64	41,298 70
First and Second Cliffs, Scituate, wall and riprap	2,797 92	19,553 12
Glades, North Scituate, filling and riprap	13,250 78	40,164 61

^a \$57,000 expended under direction of U.S. Government

<i>Location and Character of Work</i>	Contribution by Municipality or Others	Total Expenditure
Humarock Beach, Scituate, survey, wall and jetties	37,816 38	83,583 74
North Scituate, Surfside, sea wall, jetties and riprap	2,194 68	33,144 84
Sand Hills, Scituate, wall and jetties	6,011 26	37,702 59
Third Cliff, Scituate, riprap and survey	75,193 10	139,384 98
General surveys at Scituate	—	543 73
Shore Acres, Scituate, riprap	—	20,488 98
Sand Hills to Shore Acres, sea wall, jetties and riprap	—	33,440 52
Scituate Harbor, dredging and surveys	53,300 00	206,011 94
Scorton Harbor, Sandwich, jetty and dredging	500 00	17,774 34
Seapuit River, Barnstable, dredging	13,000 00	25,110 95
Sengekontacket Pond, Oak Bluffs, survey	—	104 28
Sesuit Harbor, Dennis, jetty	1,500 00	24,555 10
Shirley Gut, Winthrop, survey	—	201 06
Singing Beach, Manchester, survey	7,562 50	4,018 70
Sippican Harbor, Marion, survey	—	615 66
Smiths Cove, Gloucester, survey and dredging	3,875 00	13,466 16
South Harwich, stone jetties and riprap	2,500 00	4,451 49
South River, Marshfield and Scituate, survey	—	724 85
South River, Salem, dredging	3,000 00	13,462 66
South Watuppa Pond, Fall River, fenders and excavation	—	203 42
Stage Harbor, Chatham, dikes and survey	—	14,901 80
Stream Gauging—see Conservation of Waters		
Swampscott, survey	—	103 46
Swan Pond River, Dennis—see Dennis		
Taunton-Brockton, waterway investigation	—	5,278 18
Taunton River, survey and dredging	42,500 00	31,561 95
Taunton River-Boston Harbor Canal, survey	—	9,932 75
Taunton River-Massachusetts Bay Canal, survey	—	11,786 71
Truro Beach, survey	—	71 74
Vineyard Haven Harbor, Tisbury, breakwater and dredging	1,000 00	45,518 25
Vineyard Haven Harbor, repairing sea wall	2,380 50	11,945 01
Waquoit Bay, Falmouth, breakwater, wall, bulkhead and dredging	17,500 00	98,438 91
Wareham River, Wareham, survey and dredging	5,000 00	42,567 93
Warrens Cove, Plymouth, sea wall and survey	15,213 98	38,412 87
Watch Hill, Chatham, survey and riprap	—	14,968 75
Water Conservation—see Conservation of Waters		
Wellfleet Harbor, Wellfleet, survey and dredging	1,500 00	17,600 29
West Bay, Barnstable and Osterville, dredging, jetties and riprap	17,216 35	120,337 08
West Chop, Tisbury, stone jetties	6,500 00	5,116 07
West Dennis Beach—see Dennis		
West Falmouth Harbor, Falmouth, surveys, dredging and breakwater	11,473 75	63,520 95
West Harwich Beach, Harwich, shore protection	6,400 00	27,242 50
Western Avenue sea wall, Gloucester—see under Gloucester		
Westfield River, Westfield, survey and jetties	—	6,037 29
Westport Harbor, Westport, jetty extension and repairs	—	21,928 88
Wild Harbor, Falmouth, jetty and dredging	15,000 00	55,128 66
Winthrop Shore, Winthrop, sea walls and protective work	81,500 00	297,844 85

<i>Location and Character of Work</i>	Contributed by Municipality or Others	Total Expenditure
Witchmere Harbor, Harwich, jetties and dredging	6,500 00	70,027 91
Woods Hole, Great Harbor, Falmouth, dredging .	1,500 00	6,968 86
Wrecks, removal from tide water	—	21,737 31
Yarmouthport Harbor, survey	7,000 00	95,977 37
	<hr/>	<hr/>
	\$1,715,367 13	\$8,733,200 09

FEDERAL APPROPRIATIONS AND EXPENDITURES

Federal appropriations and expenditures for improvement of rivers and harbors in Massachusetts from the establishment of the government to the close of the fiscal year ending June 30, 1934, are shown in the following tables furnished by the Chief of Engineers, U. S. Army:—

TABLE NO. 1. — *Localities at Present Under Improvement*

(Compiled from the Annual Report of the Chief of Engineers, U. S. Army, for the fiscal year ending June 30, 1934.)

<i>Locality</i>	<i>Expenditures</i>	<i>Appropriations</i>
Gloucester Harbor	\$552,439 65	\$552,439 65
Lynn Harbor	791,179 29	806,540 94
Boston Harbor	14,232,566 01	14,547,660 08
Plymouth Harbor	470,651 35	477,035 65***
Cape Cod Canal	13,608,299 62	17,678,698 73
Operating and Care, Cape Cod Canal . .	1,441,164 43	1,465,946 01
Pollock Rip Shoals	1,413,336 98	1,467,029 26
Cross Rip Shoals, Nantucket Sound . .	41,489 64	47,489 64
New Bedford and Fairhaven Harbor . .	1,337,203 34	1,337,203 34
Fall River Harbor	790,087 33	790,087 33
Taunton River	383,785 47	383,785 47
	<hr/>	<hr/>
Total	\$35,062,203 11	\$39,553,916 10

*** Exclusive of \$108,400 contributed funds.

TABLE NO. 2. — *Localities in Which Work is Not Now in Progress*

<i>Locality</i>	<i>Expenditures</i>	<i>Appropriations</i>
Newburyport Harbor	\$506,708 13	\$506,708 13
Merrimack River	404,466 72	404,466 72
Malden River	149,950 00	149,950 00****
Sandy Bay, Cape Ann, Harbor of Refuge .	1,941,478 00	1,941,478 00
Bass River	20,150 34	20,150 41
Buzzards Bay Harbor	2,500 00	2,500 00
Canapitset Channel	5,312 54	9,800 00
Chatham Harbor	12,171 36	13,732 79
Cohasset Harbor	10,000 00	10,000 00
Duxbury Harbor	37,000 00	37,000 00
East Dennis Breakwater	7 57	1,500 00
Edgartown Harbor	25,000 00	25,000 00
Essex River	30,000 00	30,000 00
Hingham Harbor	38,316 58	38,316 58
Hyannis Harbor	221,267 07	221,267 07
Ipswich River	5,617 91	5,617 91
Kingston Harbor	8,940 09	10,000 00
Little Harbor, Woods Hole	18,000 00	18,000 00
Manchester Harbor	23,985 57	23,985 57
Marblehead Harbor	833 42	1,900 00
Martha's Vineyard (Edgartown Harbor) .	30,000 00	30,000 00
Powow River	50,940 72	51,000 00

**** Exclusive of \$ 62,000 contributed funds.

Locality	Expenditures	Appropriations
Rockport Harbor	91,229 25	91,229 25
Town River	37,577 41	37,577 41
Vineyard Haven Harbor	55,387 35	55,387 35
Wareham Harbor	95,997 30	96,236 00
Wellfleet Harbor	11,365 57	16,000 00
Westport Harbor and River	3,000 00	3,000 00
Winthrop Harbor	9,000 00	9,000 00
Woods Hole Channel	343,599 92	344,000 00
Beverly Harbor	246,690 41	246,690 41*
Salem Harbor	107,956 57	107,956 57
Mystic River	306,684 84	306,684 84
Dorchester Bay and Neponset River	128,176 44	128,176 44
Weymouth Fore River	641,150 00	641,150 00**
Weymouth Back River	27,000 00	27,000 00
Scituate Harbor	126,590 98	126,590 98
Provincetown Harbor	348,062 72	348,062 72
Harbor of Refuge at Nantucket	694,582 83	694,582 83
Total	\$6,816,697 61	\$6,831,697 98

* Exclusive of \$100,000 contributed funds.
** Exclusive of \$100,000 contributed funds.

RECAPITULATION

	Expenditures	Appropriations
Total of Table No. 1	\$35,062,203 11	\$39,553,916 10
Total of Table No. 2	6,816,697 61	6,831,697 98
Total	\$41,878,900 61	\$46,385,614 08

CONTRACTS MADE BY THE DEPARTMENT OF PUBLIC WORKS

CON-TRACT No.	Work	Contractor	Date
358	Commonwealth Pier 5, Boston, repairs to pile platform.	A. A. Hersey & Son Co.	June 6, 1933
362	Cape Cod Canal Pier, — building	Durso Construction Co.	June 6, 1933
364	Commonwealth Pier 5, Boston—dredging east berth	Bay State Dredging & Contracting Company	Sept. 26, 1933
367	Chelsea Creek, East Boston—removal of hulks	John Forward	Aug. 1, 1933
376	Shore Acres, Scituate—sea wall of concrete, jetties and riprap.	Thomas H. Hannaford	Sept. 12, 1933
377	Third Cliff, Scituate—stone riprap	Raymond A. Bergesson	Sept. 5, 1933
378	Scituate, Shore Acres—concrete sea wall and stone riprap.	A. K. Finney	Sept. 5, 1933
380	Nobscusset Harbor, Dennis—stone jetties westerly of harbor.	Sidney W. Lawrence	Sept. 19, 1933
381	Pleasant Park Channel, Winthrop—dredging	Bay State Dredging & Contracting Co.	Nov. 28, 1933
382	Boston Harbor—dredging adjacent to Pier 1, of New York, New Haven and Hartford Railroad Co.	Bay State Dredging & Contracting Co.	Sept. 26, 1933
383	Nahant Shore, Nahant—riprap protection	M. McDonough Co.	Oct. 10, 1933
384	Commonwealth Pier 5—painting exterior steel	Louis P. Steensen	Sept. 20, 1933
385	Mystic River—dredging above Malden Bridge	Bay State Dredging & Contracting Co.	Oct. 10, 1933
386	West Dennis Beach—stone jetty	Sidney W. Lawrence	Nov. 28, 1933
387	Commonwealth Pier 5—Installation of steel sash, replacement of glass, and repairs to sash	Maurice M. Devine, Inc.	Nov. 23, 1933
388	Harwich Shore Protection	Louis A. Byrne	Dec. 6, 1933
389	Stony Beach, Hull—riprap protection	Bradford Weston	Feb. 13, 1934
390	Commonwealth Pier 1, East Boston—steel, sliding, cargo doors	Waghorne-Brown Company.	Nov. 28, 1933
392	Commonwealth Pier 1, East Boston—repairs to platforms and sheds	Murray Engineering Company.	Nov. 28, 1933
393	New Bedford State Pier—repairs to plaster walls and doorways, and new windows and doors.	National Gunite Contracting Co.	Nov. 28, 1933
394	Cape Cod Canal Pier Building—piping and radiation.	Hibbett Plumbing Co., Inc.	Dec. 13, 1933

AND IN FORCE DURING THE YEAR ENDING NOVEMBER 30, 1934

Condition of Work	Contract Price	Amount paid during year ending Nov. 30, 1934	Total paid to Nov. 30, 1934
Completed Dec. 18, 1933	Unit prices.	\$744 65	\$3,779 05
Completed Dec. 20, 1933	For the construction of building complete, including foundations, floors, outside platforms, plumbing, drains, cistern with allowances as specified, and all incidental work, the lump sum of \$21,378.	3,663 43	22,200 42
	For the substitution of 4-inch tile backing in side walls in place of 8-inch tile, as specified deduct \$378.		
	For omission of all plumbing fixtures, water pump and tank and all plumbing above floor level, deduct \$700.		
Completed Feb. 19, 1934	For omission of floor specified in main shed, deduct \$1,000.	10,934 81	14,418 76
	For dredging and disposing of dredged material 43 cents per cubic yard, scow measurement.		
Completed April 30, 1934	For removing and disposing of boulders \$20 per cubic yard.	935 00	3,400 00
	For removal and disposal of steel hulk "Yankton" \$500.		
Completed June 1, 1934	For removal and disposal of all hulks, wrecks, etc., as specified, except steel hulk "Yankton" \$2,900.	14,738 43	31,371 78
	For furnishing material and constructing concrete sea wall and jetties, \$7.79 for each cubic yard of concrete measured in completed work.		
	For furnishing and placing heavy stone riprap for apron \$2.243 for each ton in completed work.		
Completed Dec. 8, 1933	For each ton of riprap or stone chips furnished and placed in the completed work, \$1.90.	4,530 65	10,990 65
Completed March 10, 1934	For furnishing material and constructing the concrete sea wall, including all excavation, backfilling forms and removing old bulkhead, including all incidental work the sum of \$7.82 for each cubic yard of concrete measured in the completed work.	5,922 03	13,991 49
	For furnishing and placing heavy stone riprap for apron including excavation, backfilling, chinking, including all incidental work, the sum of \$1.92 for each ton of heavy stone riprap in the completed work.		
Completed Dec. 8, 1933	For each ton of stone riprap furnished in place in the completed work, \$3.10.	2,081 71	2,081 71
Completed May 4, 1934	For dredging and disposing of dredged material 38 cents per cubic yard, scow measurement.	12,389 58	12,389 58
	For removing and disposing of boulders \$20 per cubic yard.		
Completed Jan. 9, 1934	For dredging and disposing of dredged material 37 cents per cubic yard, scow measurement.	5,704 09	27,166 51
	For removing and disposing of boulders, \$20 per cubic yard.		
Completed Feb. 14, 1934	For each ton of stone riprap furnished in place in the completed work, \$1.18.	26,918 57	28,914 54
Completed Jan. 17, 1934	For furnishing all labor, paint, materials and equipment and doing all cleaning and painting, the lump sum of \$1,720.	3,447 49	3,447 49
Completed Jan. 9, 1934	For dredging area and disposing of dredged material, 41 cents scow measurement.	12,714 10	12,714 10
	For removing and disposing of boulders, \$20 per cubic yard.		
Completed Jan. 13, 1934	For furnishing and placing stone riprap and granite chips in the jetty \$3.10 per ton.	1,395 00	1,395 00
Completed April 9, 1934	Unit prices.	9,173 80	9,173 80
Completed March 8, 1934	For furnishing and placing stone riprap and granite chips in the completed work, the sum of \$2.74 for each ton of 2,000 pounds.	7,327 86	7,327 86
Completed Aug. 18, 1934	For each ton of stone riprap furnished and placed in completed work, \$1.	14,895 62	14,895 62
	For rehandling existing riprap, \$200.		
Completed March 16, 1934	For each steel sliding door furnished and erected, including all incidental work, \$143.37.	2,293 92	2,293 92
Completed April 7, 1934	Unit prices.	2,134 54	2,134 54
Completed March 14, 1934	For removing existing plaster wall on north side of pier and replacing with gunite, the lump sum of \$1,460.	2,663 13	2,663 13
	For placing new gunite surface on exposed face of elevator shaft, and on inner and outer corners of steel shed, the lump sum of \$615.		
	For furnishing and erecting two steel sash, the lump sum of \$50.		
	For furnishing and erecting 3 doors, complete and ready to operate, the sum of \$500.		
Completed Feb. 19, 1934	For furnishing and installing complete and ready to operate the heating system specified including the furnishing of all labor and materials and all incidental work, \$573.	573 00	573 00

CONTRACTS MADE BY THE DEPARTMENT OF PUBLIC WORKS

CON-TRACT No.	Work	Contractor	Date
395	Edgartown, Cape Poge Bay—dredging and repairs to riprap and jetties. (N. I. R. A. Project)	Bay State Dredging & Contracting Co.	June 26, 1934
396	Winthrop Harbor—dredging.	Bay State Dredging & Contracting Co.	May 9, 1934
397	Cotuit Harbor and West Bay, Barnstable, and Bass River, Yarmouth—dredging channels.	Bay State Dredging & Contracting Company.	May 15, 1934
398	West Bay, Barnstable—repairs to west jetty	Bay State Dredging & Contracting Company.	May 15, 1934
399	Sagamore Beach, Bourne—stone jetties and riprap.	Thomas Whalen & Sons, Inc.	May 22, 1934
400	Round Cove, Harwich—dredging channel from Pleasant Bay.	Arthur K. Finney	June 13, 1934
401	Oak Bluffs—sea wall at Bathing Beach	Frank A. Days & Sons	May 31, 1934
402	Commonwealth Pier 5—electric brakes and repair work on Elevator No. 3.	George T. McLauthlin Co.	May 31, 1934
403	Boston Inner Harbor—dredging three areas	Bay State Dredging & Contracting Company	June 13, 1934
404	Falmouth Heights—repairs to sea wall at Terrace Gables.	Frederick V. Lawrence	June 13, 1934
405	Nobscusset Harbor—repairs to riprap and excavation.	Frederick V. Lawrence	June 12, 1934
406	Provincetown—stone jetties at Bathing Beach	Arthur K. Finney	June 13, 1934
407	Provincetown—repairs to riprap along shore in front of State Highway	Joseph W. Nickerson	June 13, 1934
408	Swan Pond River, Dennis—stone jetties	Frederick V. Lawrence	June 26, 1934
409	Rock Harbor, Orleans—timber bulkhead and platform.	Frank A. Days & Sons	June 26, 1934
410	Dennisport—stone jetty	Frederick V. Lawrence	June 26, 1934
411	West Chop, Tisbury—shore protection	Merritt-Chapman and Scott Corporation.	Aug. 28, 1934
412	Taunton Ave., Dennis—stone jetties	Thomas Whalen & Sons, Inc.	July 17, 1934
413	Winthrop Breakwater Extension	William R. Farrell	Aug. 1, 1934
415	Commonwealth Pier 5—roof ventilators in passenger shed.	Columbia Cornice Company.	Sept. 4, 1934

AND IN FORCE DURING THE YEAR ENDING NOVEMBER 30, 1934

Condition of Work	Contract Price	Amount paid during year ending Nov. 30, 1934	Total paid to Nov. 30, 1934
Completed Nov. 5, 1934	For dredging and disposing of dredged material 51 cents per cubic yard, scow measurement. For removing and disposing of boulders \$20 per cubic yard. For each ton of heavy stone riprap furnished in place in the completed work, \$4.07. For each ton of stone chips furnished in place in the completed work, \$4.07.	\$11,932 88	\$11,932 88
Completed June 15, 1934	For dredging and disposing of dredged material 42.5 cents per cubic yard, scow measurement. For removing and disposing of all boulders, \$20 per cubic yard.	14,017 35	14,017 35
Completed Aug. 27, 1934	For dredging and disposing of the dredged material 49.5 cents per cubic yard, scow measurement. For removing and disposing of all boulders, \$20 per cubic yard.	15,360 35	15,360 35
Completed Sept. 25, 1934	For each ton of stone riprap or stone chips furnished and placed in the completed work the sum of \$5.34 for each ton of 2,000 pounds.	3,233 69	3,233 69
Completed Aug. 3, 1934	For each ton of 2,000 pounds of stone riprap or chips furnished in place in the completed work, \$2.47.	9,686 34	9,686 34
Completed July 19, 1934	For dredging and disposing of dredged material, 27 cents per cubic yard. For removing and disposing of all boulders, \$10 per cubic yard.	933 39	933 39
Completed July 24, 1934	For furnishing material and building concrete sea wall, \$16.45 for each cubic yard of concrete measured in place in the completed work.	8,994 70	8,994 70
Completed Aug. 15, 1934	For furnishing all labor, materials, tools and equipment and performing all work for the installation of new electric brakes on elevator No. 3, the lump sum of \$875.	875 00	875 00
Completed Aug. 20, 1934	For dredging shoal area in approach channel to Commonwealth Pier 5, and disposing of dredged material, \$1.10 per cubic yard, scow measurement. For dredging area adjacent to Northern Avenue Bridge, and disposing of dredged material, 43 cents per cubic yard, scow measurement. For dredging area adjacent to Central and India Wharves and disposing of the dredged material, 45 cents per cubic yard, scow measurement. For removing and disposing of boulders \$20 for each cubic yard.	25,848 28	25,848 28
Completed Oct. 11, 1934	For each ton of stone riprap furnished in place in the completed work, \$3.15. For furnishing material and constructing concrete repairs, \$30 for each cubic yard of concrete measured in place in completed work. For each cubic yard of material for backfill furnished, delivered and measured in place in completed work, 75 cents per cubic yard.	1,842 90	1,842 90
Completed Aug. 24, 1934	For each ton of stone riprap furnished in place in completed work, \$2.60. For excavating and disposing of excavated material 25 cents for each cubic yard measured in place and deposited in the disposal area.	1,724 00	1,724 00
Completed Sept. 25, 1934	For each ton of stone riprap or chips furnished in place in the completed work, \$3.07.	-	-
Completed Aug. 15, 1934	For each ton of stone chips furnished in place in the completed work \$2.75. For rehandling about 200 tons of heavy stone riprap and replacing it within the limits of the existing riprap, the lump sum of \$49.	2,929 93	2,929 93
Completed Sept. 7, 1934	For furnishing and placing granite stone riprap and granite chips in the jetties, \$2.53 for each ton of 2,000 lbs. in the completed work.	3,239 67	3,239 67
Completed Nov. 2, 1934	For furnishing all materials and constructing creosoted timber bulkhead and platform, \$28.92 for each linear foot of completed bulkhead and platform.	6,489 65	6,489 65
Completed Sept. 18, 1934	For furnishing and placing stone riprap and granite chips in the jetty \$2.90 for each ton of 2,000 lbs.	1,057 54	1,057 54
In progress	For each ton of stone riprap or chips furnished in place in the completed work, \$4.86.	-	-
Completed Sept. 8, 1934	For furnishing and placing granite stone riprap and granite chips in the jetties \$2.42 for each ton of 2,000 lbs.	1,753 05	1,753 05
In progress	For each ton of stone riprap furnished in place in the completed work, \$1.97.	49,623 76	49,623 76
Completed Oct. 4, 1934	For each ventilator 16 inches in diameter furnished and installed \$27. For each ventilator 12 inches in diameter furnished and installed \$25.	926 00	926 00

CONTRACTS MADE BY THE DEPARTMENT OF PUBLIC WORKS

CON-TRACT No.	Work	Contractor	Date
416	Manomet Point, Plymouth protective work . . .	M. J. Crowley . . .	Aug. 21, 1934
417	Singing Beach, Manchester—protective work . . .	Thomas A. Mackey . . .	Aug. 28, 1934
418	Hough's Neck, Quincy—shore protection . . .	City of Quincy . . .	Aug. 14, 1934
419	Mystic River—dredging above and below Malden Bridge.	J. S. Packard Dredging Co.	Sept. 11, 1934
420	Removal of wrecks and débris from Jeffries Point, East Boston, and Savin Hill Bay, Dorchester.	George M. Bryne . . .	Sept. 18, 1934
421	Repairs to pile and timber work at Commonwealth Piers No. 1 and No. 5, at Boston.	W. H. Ellis & Son Company	Oct. 30, 1934
422	Commonwealth Piers No. 1 and No. 5, and E Street Storehouse—roof repairs.	Atlantic Roofing & Skylight Works.	Nov. 7, 1934
423	Commonwealth Pier 5—installation of new sash and replacement of broken glass.	Maurice M. Devine, Inc.	Nov. 13, 1934
424	Pier 1, East Boston—steel sliding doors . . .	Roy Wason . . .	Nov. 13, 1934
425	Castle Island Bulkhead, South Boston . . .	John P. Cavanagh . . .	Nov. 27, 1934
426	Commonwealth Pier 5—painting doors and sash in Headhouse.	John S. Leonard . . .	Nov. 13, 1934
427	Commonwealth Pier 1, East Boston—movable gangway.	Waghorne-Brown Company.	Nov. 20, 1934

AND IN FORCE DURING THE YEAR ENDING NOVEMBER 30, 1934

Condition of Work	Contract Price	Amount paid during year ending Nov. 30, 1934	Total paid to Nov. 30, 1934
In progress	For stone riprap furnished in place in the completed work, \$1.75 per ton.	\$5,334 18	\$5,334 18
In progress	For furnishing material and filling back of riprap, 30 cents per cubic yard measured in place in the completed work. For each ton of riprap furnished and placed in the completed work, \$1.85.	3,076 06	3,076 06
In progress	For each cubic yard of gravel or crushed stone furnished and placed in the completed work 90 cents. For each square yard of bank graded including the furnishing of material and incidental work 20 cents. Commonwealth to pay to city one-half of cost of all labor other than that furnished by Federal Government, one-half actual cost of materials and tools furnished, and one-half actual prices paid for rental of machinery and equipment employed in performance of work, provided the total amount to be paid by the State to the city does not exceed \$10,000, — as authorized by Ch. 322 of Acts of 1934 and by Item 60A of Chapter 384 of the Acts of 1934.	—	—
In progress	For dredging and disposing of dredged material 34.5 cents per cubic yard, scow measurement. For removing and disposing of all boulders \$20 per cubic yard.	16,312 02	16,312 02
Completed Oct. 10, 1934	For removing and disposing of wrecks and débris from property of George B. Fitzpatrick at Jeffries Point, East Boston, the lump sum of \$350. For removing and disposing of wrecks and débris from property of city of Boston at Savin Hill Bay, Dorchester, the lump sum of \$1,295.	1,398 25	1,398 25
In progress	Unit prices.	—	—
In progress	Unit prices.	—	—
In progress	For each light of glass furnished and set to replace broken glass, 70 cents. For each new sash approximately 18 ft. 4 $\frac{1}{8}$ in. by 9 ft. 7 $\frac{1}{4}$ in. furnished and set, \$112. For each new sash approximately 18 ft. 4 $\frac{1}{8}$ in. by 8 ft. 3 $\frac{1}{2}$ in. furnished and set, \$90.	—	—
In progress	For each steel sliding door furnished and erected, \$146.	—	—
In progress	For removing about 980 linear feet of bulkhead and disposing of all material, except that used in repair work, \$2.75 for each linear foot of bulkhead removed. For repairing bulkhead by splicing and patching, \$40 for each M Ft. B M of lumber placed in the work. For repairing bulkhead by driving sheeting \$60 for each M Ft. B M of lumber placed in the work. For refitting and securing piles \$5 for each pile refitted and secured. For furnishing all ship spikes, bolts and washers, 15 cents for each pound used in the work.	—	—
In progress	For furnishing all material, labor and equipment and painting doors, and windows in Headhouse, the lump sum of \$285.	—	—
In progress	For furnishing and erecting in place in complete working order the movable gangway, the lump sum of \$1,844.	—	—

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